APR 2 1928

PAPER TRADE JOURNAL

Vol. LXXXVI, No. 13 MARCH 29, 1928 United States, Per Annum, $4.00 Canada and Foreign Countries in Postal Union, $5.00

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The COE Continuous Roller Dryer-MODEL 23-for Boards

Entered as second class matter August 12, 1925, at the Post Office at East Stroudsburg, Pa., under Act of Congress of March 3, 1879. ESTABLISHED 1872 FIFTY-SIXTH YEAR Published every Thursday by the Lockwood Trade Journal Co., at 94 N. Crystal St., E. Stroudsburg, Pa.
EXECUTIVE AND EDITORIAL OFFICES: 10 East 39th STREET, NEW YORK CITY. CHICAGO, 123 West Madison Street, Chicago, Ill.

PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-SIXTH YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President — F. K. HOPPIE, Secretary

Executive and Editorial Offices, 10 East 39th Street, New York
Chicago Office: Room 14, Suite 410, 123 West Madison St.

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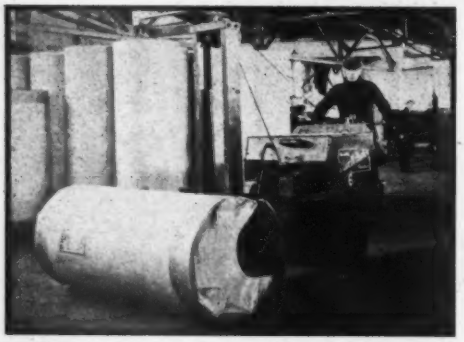
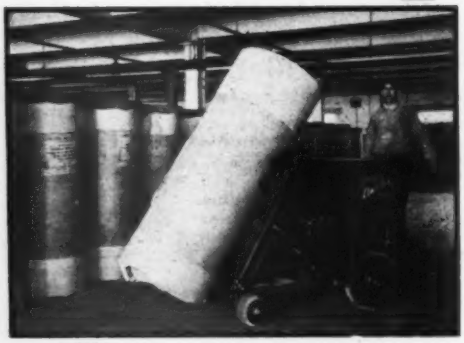
158

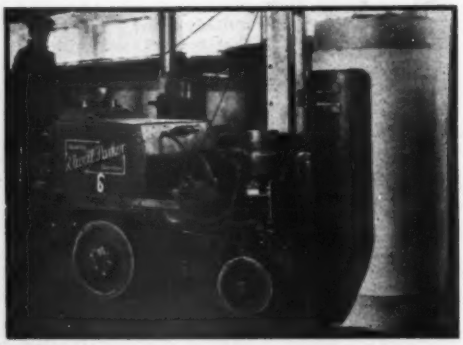
LITTLE JOURNEYS INTO COST SAVINGS



Picks up



Carries



Puts down

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Write us, telling what *you* want handled, for Elwell-Parker Tructors are made for every haulage problem in the paper industry. Our Engineers will gladly give you the benefit of our 21 years' experience and explain the special features in design and construction that have made Elwell-Parker Tructors the leaders in their field.

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PIONEERS IN ELECTRIC TRUCTOR MANUFACTURE

ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

Vol. LXXXVI, No. 13 — PAPER — Thursday, March 29, 1928

A. P. W. Paper Co. to Enlarge Mill at Albany

Stockholders Vote Favorably On a Plan Calling for the Expenditure of More Than $1,000,000 For the Erection of New Plant Additions and New Machinery—Improvements Include the Addition of a New Paper Machine 176 Inches in Width—New Financing Planned

ALBANY, N. Y., March 26, 1928.—Plans for the expenditure of more than $1,000,000 for the erection of new plant additions and the purchase of new machinery were practically completed by the A. P. W. Paper Company last week when stockholders at a special meeting voted favorably upon the expansion plans presented for approval by the board of directors.

The paper mill is to be enlarged by the erection of an addition 300 by 60 feet and a smaller structure 70 by 80 feet, the latter addition to join the present mill and the new mill. The new buildings are to be erected in North Broadway adjoining the barge canal terminal where the company recently completed a new warehouse capable of storing six thousand tons of pulp. The plant additions will cost approximately $400,000.

A new papermaking machine to be installed in the new building has been authorized at a cost of approximately $850,000. With this machine in operation the company plans to manufacture a greater amount of the cheaper grades of tissues. The new machine will have a capacity of 600 feet per minute and will make a sheet 176 inches wide. The present machines at the A. P. W. plant 84 inches wide.

The new additions to the local plant will be constructed entirely of brick and when completed will be operated day and night increasing the number of employes to more than seven hundred. The plant now produces about 75 tons daily but with the new facilities the production will be increased to 135 tons.

The stockholders of the corporation will meet again in this city April 2 to vote authority for an issue of $3,000,000 in bonds which will be used to purchase at $110 per share, the present outstanding preferred stock of $1,500,000 and to retire first mortgage bonds of $741,500 on the plant of the A. P. W. Pulp & Power Co., Ltd., at Sheet Harbor, Nova Scotia, a subsidiary. At that time the stockholders will also authorize a first and second mortgage upon the property of the corporation and the $900,000 capital stock of the A. P. W. Pulp & Power Co., Ltd., which is held by the parent concern.

Argentina to Stabilize Price of Casein

BUENOS AIRES, March 21, 1928.—Argentina, which produces 75 per cent of the world's output of casein, is about to stabilize the price of that commodity through a strict supervision and control of its exports. This plant, which was originally urged by the Argentine Agricultural Society, the "Sociedad Rural," has now received the full support of the National Association of Dairy Industries in Argentina, of which every manufacturer of dairy products is a member. Both organizations are now considering the most suitable and effective method of procedure.

It is believed that the end in view can easily be obtained, as the number of large casein manufacturers is rather limited. The two leading manufacturers in Argentina alone supply 45 per cent of the world's casein production. The demand that something should be done became urgent when casein prices declined after an investigation into Argentine production costs by an American expert. However, as an editorial in La Nacion, Buenos Aires, supporting this plan points out, immediately after the "Sociedad Rural" had suggested a control of exports, the market began to improve. Another reason for the sudden decision taken by the Argentine casein producers may be found in their desire to counteract any possible effects of an understanding reached among paper manufacturers, wherein American firms are said to be participating.

The Argentine casein industry has grown considerably and constantly during the last decade and reached a production of 19,500 tons in 1926. During that year the United States, which is the largest casein consumer, took about 12,000 tons from Argentina. An effective control of exports, especially during the months of over-production, it is said, will do away with Germany or Great Britain acting as "middleman" in the distribution of Argentine casein, as has frequently been the case during the past years, when price fluctuations enabled buyers in Europe to re-sell the Argentine product at a profit in the United States.

William Campbell To Be Superintendent

[FROM OUR REGULAR CORRESPONDENT]

OSWEGO, N. Y., March 26, 1928.—William Campbell has been appointed superintendent of the Taggart-Oswego Paper and Board Corporation, according to announcement made this week by Corwin T. Jewell, general manager of the St. Regis Paper Company, which controls the local plant, now under construction. Mr. Campbell has already assumed his new duties. He was formerly associated with the Nashua River Paper Company, of Pepperill, Me.

Mr. Jewell announced also the appointment of Floyd Borland as superintendent of the Herrings bag factory, of Taggart Brothers Company. Mr. Borland has had a long service with the St. Regis Paper Company and leaves the position of night superintendent of the Black River mill to go to Herrings. No appointment has yet been made of Mr. Borland's successor at the Black River mill. Messrs. Campbell and Borland will work under the direction of A. W. Bronk, general superintendent of the St. Regis Paper Company.

Make Pulp From Sugar Cane by New Process

Modern 40 Ton Pulp Plant Recently Started at Tuinucu, Cuba, Will Be Enlarged Immediately To Provide for a Capacity of 120 Tons Daily—Pulp Is Produced Inexpensively And Is Adapted for the Manufacture of Rayon and High Grade Papers

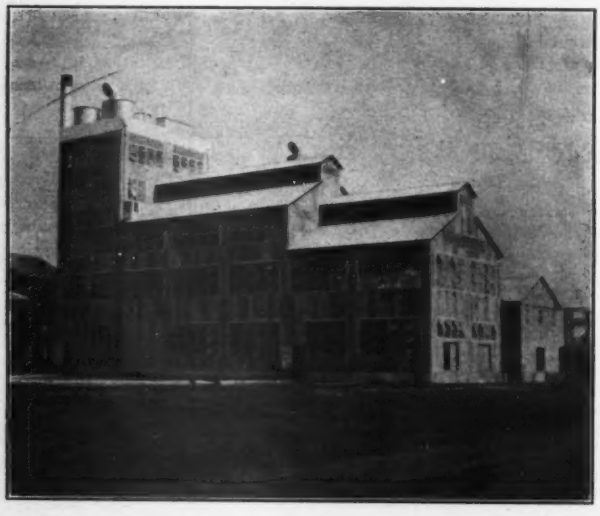
Celulosa Cubana, S.A., recently started its modern plant for the manufacture of sugar bags and sugar cane pulp by the Roza process, from the fiber of the sugar cane at Tuinucu, Cuba. The company has been incorporated under the laws of the Republic of Cuba by the leading sugar producing interests of that country, headed by the Czarnikow-Rionda Company of New York.

The Roza Process

The Roza process is a chemical process radically different from any processes now in use for the manufacture of pulp. It is the culmination of years of research and experiment by Joaquin de la Roza, a mechanical engineer, graduate of Cornell University, born in Matanzas, Cuba. Although by training and experience primarily a sugar engineer, Mr. de la Roza's boyhood days have been spent in the midst of the large pulp and paper mills of the State of Maine, where he acquired a vast knowledge of that industry which enabled him properly to correlate the manufacture of paper with that of the manufacture of sugar. Heretofore, attempts to produce a suitable pulp from sugar cane consisted in treating the sugar cane fiber by the soda process similarly to that used for the manufacture of soda pulp. In the Roza process, the main efforts center about the production of a textile fiber suitable for the spinning and weaving of sugar bags and it has been found that the textile fiber produced is admirably suited for the manufacture of paper stock, possessing very fine properties.

Experiment in Eastern Plants

In order to obtain manufacturing data on the Roza process, the facilities of several eastern pulp and paper plants were leased and

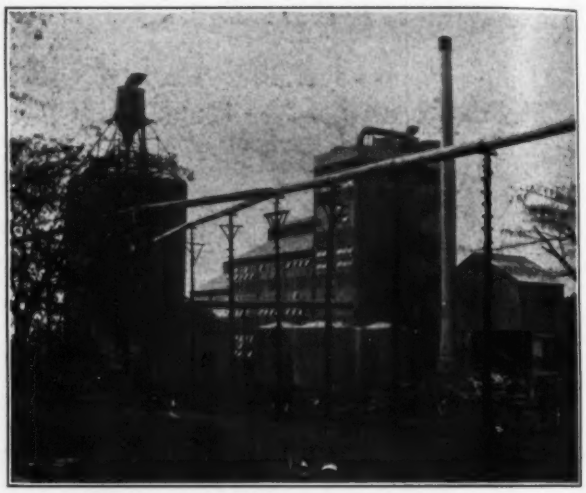


PLANT OF CELULOSA CUBANA

various runs of pulp and paper were made from sugar cane fiber shipped from Cuba for the purpose. The results having been satisfactory, Celulosa Cubana then erected its present 40 ton modern pulp mill at Tuinucu, Cuba. This, the first sugar cane pulp mill in the world, is being enlarged to 120 tons to take care of contracts, and is at present producing a very high grade of alpha cellulose adapted for the manufacture of rayon and similar high quality products and high grade paper. This plant was designed and erected under the supervision of the inventor and the Stebbins Engineering and Manufacturing Company.

Due to the difference in chemical treatment and process, many innovations were necessary, which, nevertheless, account for the high quality of the pulp produced and for its initial success.

The plant is situated on a large tract of land on the banks of



GENERAL VIEW OF PLANT

the Tuinucu River, in the central portion of Cuba, adjacent to the property of the Tuinucu Sugar Company from which it obtains its sugar cane fiber. The plant comprises digester house, sugar cane fiber storage, river water coagulating settling and filtering basins, employees' houses and all the various railroad tracks and other paraphernalia of an up-to-date pulp mill. The fiber is blown through a pipe line to storage and to the digesters. The complete delignification is effected by the successive use of chlorine, sulphur, lime and caustic soda, but in very mild proportions.

The Digester House

The digester house is of most modern design. The digesters are 12 x 50, Manitowoc's best construction and designed to withstand 160 pounds working pressure, and caulked throughout, inside and outside. The type of blow valves is a special Crane Hydraulic 18 inch gate valve. The process being capable of very exact control, temperatures and pressures are regulated by a special designed Tycos control mechanism which operates by cams at the proper time. The blow-pit is of reinforced concrete construction with inclined bottom provided with the usual false bottom for drainage. There is no chip bin over the digesters, the material being blown from storage. After the material is digested, it is in a semi-cooked state and is passed through Howard refiners and subsequently through the various operations originally employed in handling pulp. Pumping of this heavy material is accomplished by means of Fairbanks-Morse Wood's trash pumps.

Pulp Equipment

The pulp equipment includes the latest and most up-to-date machinery. The electric equipment is from the General Electric Company, Westinghouse, Fairbanks-Morse and Cutler-Hammer. All machines are individual driven through Cleveland worm gears

and push button controlled. All equipment is ball-bearing equipped. Washing of the pulp is done on an Improved Paper Machinery Company's latest type of washer and in settling tanks. The material is carefully riffled several times in the course of manufacture in order to produce extremely clean pulp. The super-bleaching equipment is one of the most complete bleaching plants lately installed comprising Semco bleachers, Kalamazoo stock chests and Oliver washers. After washing, the pulp is run over two special Rogers wet machines of the two press type.

Chemicals

Chlorine for chemical treatment and bleaching is brought to Tuinucu by all-rail in tank cars from the Hooker Electrical Chemical Company of Niagara Falls. The sulphur is brought directly from New Orleans by steamer. Lime is obtained locally and is of an excellent quality due to the fact that it has long been used in large quantities for the purification of the sugar cane juice. As the amount of the other chemicals used is very small and the price of the lime is very low, the cost of chemicals is much lower than in the manufacture of pulp from wood. The cost of the raw material is also considerably lower than the cost of wood. When it is taken into consideration that sugar cane is an annual crop which is produced year after year without replanting, it must be admitted that it furnishes a very permanent source of pulp for paper and other purposes. Some of the properties of the pulp produced from sugar cane are found in no other pulps, namely absorbency and strength.

Long and Strong Cells

Some cane fiber contains a large percentage of long and very strong cells and a much smaller percentage of ovoidal absorbent cells. The long cells derived from the exterior of the cane run up to 6 and 7 millimeters in length, the average being about 3 millimeters. The ovoidal cells are much shorter and impart a remarkable degree of absorbency to the pulp. Thus is especially adapted for the manufacture of absorbents such as are now used in sanitary goods. For coated and similar papers and papers using large amounts of china clay, sugar cane pulp is admirably suited, possessing a remarkable capacity for taking up china clay, due, of course, to its absorbency. Sugar cane pulp hydrates very rapidly and it has been found that it takes but a few minutes to obtain the same results in the beaters which require several hours beating when other pulps are used. The strength of the paper, due to the varied length of fibers, is remarkable. Tests made at Celulosa Cubana's laboratories have been confirmed by the laboratory of a large paper mill in Canada and by other large laboratories, to run over a 91 Mullen bursting strength, while the Schopper test is well over 24 pounds per pound basis weight. The folding strength is likewise very high and the tensile strength of 150 reflects the presence of the unusually long and strong fibers characteristic of this pulp.

As would be expected of a material which is not very highly lignified, the pulp made from sugar cane fiber is very high in alpha cellulose and is therefore suitable for use in the manufacture of artificial silk by the viscose and other processes.

Low Cost of Raw Material

Owing to the above characteristics, it is expected that the pulp which is of a very white color will find its place with the higher grades of pulp in the rayon, coated, book or glassine pulp markets. The low cost of the raw material, the low cost of conversion due to the mild chemical treatment and low cost of chemicals employed, the advantages of climate and low priced labor free from labor troubles, and the nearness of the Island of Cuba to the Eastern paper mills of the United States, will, it is stated, enable this pulp to compete successfully in the United States market and may mean much to those sugar companies of Cuba which have been hard hit by the low prices of sugar and also to the Eastern paper producers who will be able to cut down their pulp costs and thereby help themselves out of the situation brought about by the ever decreasing supply of pulp wood in the East.

Begin Foremen's Conference at Rumford

[FROM OUR REGULAR CORRESPONDENT]

RUMFORD, Me., March 26, 1928.—The Continental Paper and Bag Mills Corporation has put on a program of foremen's conferences with the cooperation of the Federal Board of Vocational Education of Washington and the State Department of Education.

The conference started with a dinner meeting at Hotel Rumford, Tuesday evening, March 20, given by the company to its executives and foremen, at which time A. G. Stone, manager of the Paper Division, explained to the men assembled his convictions in regard to the benefits to be derived from such a series of conferences. He then called on Stephen E. Patrick, state director of Vocational Education, who explained that one of the functions of his department was to render free service to industry along these lines, wherever industry called.

Frank Cushman of Washington, chief of the Division of Trade and Industrial Education of the Federal Board, then reviewed the provisions of the so-called Smith-Hughes Act or Vocational Education Act passed by Congress in 1917, which furnishes to each of the states generous grants of money for the promotion of real Vocational Education. To be available for the states' use, additional grants are required of the various states, and all of the states' legislatures within a few months of the passage of the Federal Act, met the conditions, and there is and has been available for ten years a large sum of money for such purposes.

Mr. Cushman then took a poll of the meeting, which showed a total of 828 years' experience in paper and bag manufacture represented in the group assembled, to show that it was folly for any one man to attempt to tell these competent men how their work should be done.

The purpose of the conferences is to capitalize on this tremendous store of experience to draw out of the group itself by means of a conference leader, who will direct the discussion, all the information possible for the solving of problems of their everyday work. Mr. Cushman was followed by Charles Brown, superintendent of the Bag Division, who gave his hearty approval to the project.

This series of meetings will be conducted by Mr. Patrick on an intensive basis for a period of three or four weeks, the groups meeting for two sessions a day, after which it will be followed up by a regular program at less frequent intervals.

The meetings began Wednesday morning with a great deal of enthusiasm and a promise of a very profitable experience.

K. V. P. Co. To Ask for Bids for Building

KALAMAZOO, Mich., March 26, 1928.—Bids will soon be taken for the erection of the large factory addition to the plant of the Kalamazoo Vegetable Parchment Company. The structure, which will contain over 100,000 square feet of floor space, will be two stories and basement and will match in every way the high type of construction employed in the erection of mill No. 2. The exterior will be in faced brick, with an interior of finished reinforced concrete.

The construction of this building is made necessary by the installation of machine No. 2, which will about double the output of the plant. It will be used for manufacturing, converting the raw stock from the two machines into the various products Parchment specializes in. Billingham & Cobb are doing the architectural and engineering work on the addition.

The O. F. Miller Company, holding the contract for erection of Parchment's new office building, is progressing steadily with the work at hand. The foundations are in and good progress is being made on the building upright.

Strickland Paper Co. Appointed Agent

BIRMINGHAM, Ala., March 26, 1928.—The Strickland Paper Company, successor to the Diem & Wing Paper Company of this city, has been appointed an agent of the Hammermill Paper Company of Erie, Pa.

Philadelphia Paper Market Fairly Active

Local Distributors Experience a Rising Seasonal Demand and Pennsylvania Paper Mills Reflect Increased Business With Enlarged Operations—Board Manufacturers Report Production Expanding With Quotations on the Various Grades Holding Steadily

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., March 26, 1928.—Though a seasonable activity has been dominating the paper market for the past fortnight it has not yet assumed the proportions of a normal springtime demand. Both divisions of the trade have been adapting conditions to meet the improvement of fairly satisfactory trend. With the lively seasonal turn a brighter attitude is being maintained towards the immediate future and distributors believe that business will attain momentum as soon as the many industrial enterprises now anticipating expansions have been placed on broader scale of operations.

While the dealers begin to experience a rising seasonal demand the mills also are reflecting the increased business with enlarged operations. Though mill demand is fairly good it is as well maintained as seasonal activity of normal trend would warrant. A few of the fine paper mills and specialty producers in glassines and grease proof papers consumed by the food and confectionery industries are experiencing a livelier pace of operation as Easter approaches and its requirements are anticipated. Board mills report a larger production with prices holding steadily despite the slower demand that has prevailed ever since the early year.

With the announcement of a drop of vegetable parchment of 2 cents per pound effective in the past few days, the trade has been informed of keener competition in the manufacturing field and the advent of newcomers in the production of this grade of paper. Ever since the war vegetable parchment has been holding fairly well, as manufacturers state they are confronted with continued high cost of production. The newcomer is a northern Michigan manufacturer, who formerly was linked with the Kalamazoo Vegetable Parchment Company and is now engaged on his own account in the manufacture of these wrappers and specialties. Recently the local territory has been subjected to campaigning of three of the most prominent of producers and not until recent times has so large a reduction been made in the bidding for orders. A smaller reduction was quoted earlier in the year when campaigning for 1928 orders began. Since then the three manufacturers have been keenly entering the competitive bidding for business and the lower levels were reached within the past week. One of of the larger parchment manufacturers has also become a producer of kraft, devoting one of the idle machines to this new enterprise, so as to keep hands employed.

Owing to the scarcity of paper stock, the market has become quieter, despite the urgent mill demand. Higher grades are now being sought to replace the cheaper common papers which are lacking. There has been a slight increase in the cost of those grades that are available. With the stringent market and the dearth of stocks in warehouses, an advance is anticipated on all grades.

Kalamazoo Vegetable Parchment Brochure

Under the caption "The Story of K. V. P.", an attractive and well designed brochure has been prepared by the Kalamazoo Vegetable Parchment Company for distribution among its patrons. The local dealers last week received this educational treatise on the production of the K. V. P. Mills and were highly complementary upon the thoroughness and completeness as well as enlightening compilation of its business. The title page states the book to be a "Little Journey To The Model Papers Mills of the K. V. P., Kalamazoo, Mich., done by the Roycrofters, at their shops, Roycroft-Town, East Aurora, N. Y., the classic printery of the late Elbert Hubbard, and dated 1927. It is a high class piece of the printers art, with excellent typography, typical of the Roycrofters Arts, and is profusely illustrated with elaborate reproductions of the plant and environs. It shows many uses for the K. V. P. parchments, their production, range of varieties, with chemical and mill processes of manufacture. There are 69 pages of instructive and informative matter within its artistic cover, fashioned along Roycrofters uniqueness.

West Carrollton Paper Mills Offer Parchments

A broad line of parchments from the mills of the West Carrollton Paper Company, of West Carrollton, Ohio, were offered here by the representative from the manufacturers, Charles R. Christman, who made the rounds of the trade with seasonable sellers. The West Carrollton Paper Company has been enjoying a wide springtime demand for the many excellent grades that were displayed to the local dealers.

William Mann Mills Purchased

The former paper mills of the William Mann Company, Philadelphia bank stationers and manufacturers of stationery for financial and corporate interests, with headquarters at 5th and Market streets, and plant at 5th and Arch Streets, have been sold to J. S. Cochrane, head of the Rising Sun Paper of Rising Sun, Md. The Mills are located at Lambertville, N. J., and formerly were devoted to the manufacture of the famous Shen King Papers for duplicating purposes, long the standard paper for large corporations and railroads in use for duplicating bills and other matter. There were produced in recent years a line of carbon papers. The Mann Mills are over 75 years old and for the past 50 years have been under control of the William Mann Company. During the war days they were entirely overhauled and modernized and new units added. The Rising Sun Paper Company manufactures sanitary products, tissues and napkins. A survey of the property was made in the past week with a view to transfer of the ownership to the new controlling interests.

Mazer Paper Mills Improve Production

Under plans for the extension of its production the Mazer Paper Mills, located at Lansdowne, Pa., just outside Philadelphia, have provided for the improvement of its line of sanitary products napkins and towels. The installations of additional mechanical units enables the manufacture of a higher quality of these paper wares at moderate prices. The Mazer mills are the former E. T. Garrett Paper Company's manufacture plant, and the last of the Garrett mills to operate in Pennsylvania under ownership of the lineal descendents of the pioneer paper making family of Garretts.

Wolf Bros. Extensions

The new addition to the plant of Wolf Brothers, 330 North 12th street, is now completed and ready for occupancy after the installation of the units of the National Metal Edge Box Company. Wolf Brothers, extensive manufacturers of envelopes, paper bags for the mercantile trades, drinking cups, and patented paper bag specialities, now occupies the six story building long constructed on the site at 330 North 12th street. The new addition adjoins the old quarters and consist of a five story building which will be given over to the extension of the bag and envelope plant and to the quarters of the National Metal Edge Box Company, producers of the patented metal edge boxes formerly located at 13th street and Callowhill.

A considerable quantity of new machinery will be installed for

the expansion of production. With the acquisition of the new home of the National Metal Edge Box Company the Thompson National Press Company, of Franklin, Mass., has been awarded contract for the installation of six automatic cutting and creasing presses for the manufacturing of folding boxes in the new plant of the National Metal Edge Company. Part of the units of the old plant of the National Metal Edge Company are now removed to the new location and within a short time the entire mechanical department will be installed in the modern quarters. Howard Wolf, of Wolf Brothers, who also control the National Metal Edge Company, left for a three months vacation in Europe last week.

Recently a legal announcement was made of the withdrawal of Edwin Wolf and Clarence Wolf from the firm of Wolf Brothers and a new partnership formed consisting of Benjamin Wolf, Louis Wolf, Albert Wolf, Howard Wolf and Elias Wolf, who comprise the present firm of Wolf Brothers. Simultaneously with the reorganization of the envelope concern, the National Metal Edge Box Company announced the withdrawal of Edwin and Clarence Wolf and the formation of the newer controlling interest of the Wolf Brothers personnel as owners of this concern also. The banking concern of Wolf Bros. and Co., whose personnel embodies the membership of the envelope concern and box company continues to inclue Edwin and Clarence Wolf, Benjamin Wolf, Louis Wolf and Albert Wolf.

Aatell & Jones Acquire New Home

A new home has been erected for the future plant of Aatell and Jones, now located at 2132 Cherry street, in the down town section products, food specialties such as butter chips, bread envelopes, at 1314 South Howard street. The firm manufacturers sanitary drinking cups, soda water supplies, dish liners, doilies and other converted products for restaurants, hotels and clubs.

Franklin Paper Co. Makes Cover Leather Substitute

With the introduction of the new leather substitute in covers for books the Franklin Paper Company, 810 Sansom street, is enjoying a brisk demand for the latest of developments in specialties, produced by this concern. The new product is the Frankote Cut Flush Book Covers, with a handsome leatherlike finsh and embossing. It can be used for catalogues, booklets or any purpose where a leather substitute of strong and durable quality is desired and at one third the cost of real leather or cloth leatherettes. The Franklin Company has also got out a new line of light weight leather fiber cover for use in turned in edges and corners. It is flexible and produced in beautiful embossed designs and a wide range of colors. These augment the wide range of leather papers made under the Frankote Brand for all uses.

New Specialist For J. L. N. Smythe Co.

There has been added to the staff of the J. L. N. Smythe Company, 30 South 6th street, a specialist who will feature the sale of Sisal Kraft for which the local wrapping paper and specialty house has become the agent. The new sales specialist with the Smythe Company is Godfrey S. Sautter and he will represent the firm in Philadelphia and surrounding territory, where the exclusive sales agency has been acquired for this patented Sisal Kraft, used by the building and contractinng trades. Since covering the local trade the new sales representative has met with phenominal success.

Morgan H. Thomas Returns From South

President Morgan H. Thomas of the Garrett-Buchanan Company, 16-20 South 6th street, who has been spending the past three weeks in Palm Beach and other Florida Coast resorts is back at his desk. He returns much improved in health following the brief recuperation and rest after the recent reorganization of the company.

Fred Roll Joins Sabin & Robinson Co.

Fred Roll, who recently severed his connection wth the Garrett-Buchanan Company, is now associated with the Philadelphia offices of the Sabin Robinson Company. He will look after the book and writinng paper department, having had experience with these lines as head of sales in the Garrett-Buchanan Company.

John O'Leary Recuperates in South

John O'Leary, who for many years was manager of the wholesale paper stock and rage importing business of Daniel I. Murphy, Inc., Brown building, and who suffered a nervous collapse last year, is recuperating in the Florida resorts after severing his connection with the local house in order to regain his health. For the past few weeks he has been stopping in Miami.

George W. Ward Improving

President George W. Ward, of the D. L. Ward Company, 28 South 6th street, who has been spending the winter months in Tucson, Arizona, for the purpose of recovering his health, is reported to be improving. He left last Fall to spend six months in the Arizona health resort, following a prolonged illness from sinous infection. The latest word received last week by Secretary William A. Hentz, of the Ward Company, states he is gaining in health and expects to return here this spring.

Junior Paper Technologist Wanted

The United States Civil Service Commission announces an open competitive examination, Junior Paper Technologist. Applications must be on file with the Civil Service Commission at Washington, D. C., not later than April 28. The date for assembling of competitors will be stated on their admission cards, and will be about ten days after the close of receipt of applicatoins.

The examination is to fill vacancies in the Bureau of Standards, Washington, D. C., and in positions requiring similar qualifications, for duty in Washington, D. C., or in the field.

The entrance salary in the District of Columbia is $1,860 a year. After the probational period required by the civil service act and rules, advancement in pay depends upon individual efficiency, increased usefulness, and the occurrence of vacancies in higher positions. For appointment outside of Washington, D. C., the salary will be approximately the same.

Competitors will be rated on general chemistry, elementary physics, and mathematics up to and including calculus; and practical questions on paper technology.

The work of the Bureau of Standards includes many branches of physics, chemistry, and engineering, such as mechanics, heat, optics, electricity, sound, metrology, metallurgy, radio, electronics, engineering (gas, electrical, mechanical, etc.), also industrial technology, including research and standardization and offers valuable experience in these professions, combining as it does theoretical, experimental, and practical work.

Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or the secretary of the United States civil service board of examiners at the post office or customhouse in any city.

News of the Southeastern Trade

ATLANTA, Ga., March 26, 1928.—The Strickland Paper Company, Incorporated, 1601 First Avenue North, Birmingham, Ala., has incorporated with W. C. Strickland, president, L. E. Holder, treasurer and R. B. Thompson, secretary. These three men were all with Graham Paper Company's Birmingham branch. The Strickland Paper Company, Incorporated is now receiving its stocks, having a good sized warehouse at the above address. Mr. Strickland has just returned from a quite extensive trip through the Northern mills, placing orders for these lines.

Mr. Holden and Mr. Dunbar of the Crocker, McElwin Company have just made the rounds of the Southeastern paper houses as, also, did George Cross of the Dill & Collins Company.

W. R. Russell has recently resigned from the Sloan Paper Company. Mr. Russell has been with these people quite a number of years, having charge of the inside work and the mill sales.

Canadian Paper Mills Use Much Hydro Power

Pulp and Paper Industry Far in Advance of Other Trades in Utilization of Hydro-Electric Energy—Bagley & Sewall Co. Installing New Fourdrinier in Great Lakes Plant—Second Machine of Thunder Bay Paper Co. Begins Producing at Port Arthur, Ont.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 26, 1928.—The pulp and paper industry of Canada continues to forge ahead each year in the utilization of hydro-electric energy, and stands far in advance of any other in this respect. Some idea of the amount required may be gathered from the fact that it takes 100,000 h.p. to produce a single ton of news print daily, and in addition various mills, such as Laurentide, Abitibi, Port Alfred and others, make use of surplus power for the production of steam. There is a total installation of 528,731 h.p., in connection with the mills themselves. This includes plants like Spanish River, Abitibi, Laurentide, Brompton, and Western mills such as those in British Columbia, developing their own power. An even larger amount is purchased by the other mills from central stations to an amount of over 774,000 h.p.

Pulpwood Cutters Returning

With winter pulp wood and logging operations drawing to a close, more than 6,000 lumberjacks employed in camps throughout the forest area west and north of Fort William, Ont., will shortly begin their annual trek to the cities. The season's cut has been practically completed. It is estimated that an army of woodsmen numbering close to 3,000 will lay aside axes and saws and descend upon Fort William and Port Arthur, bringing with them a "roll" aggregating a quarter million dollars. Most of this money will find its way into business channels in the Twin Cities. Some of the large camps to the west have already begun to cut down on the number of men employed and most of the operators are hauling their wood to rivers or railroads in preparation for the spring drive that will pile up hundreds of thousands of cords of wood at the mills at Fort William, Port Arthur, Kenora and Fort Frances.

Could Patrol Long Boundary Line Daily

All Northern Ontario from Quebec to Manitoba can be patrolled by airplane once every twenty-four hours when necessary, said Dr. Lyman B. Jackes, a Provincial Government photographer, in the course of an address in Toronto a few days ago. Showing pictures of the great pulp mills on the Abitibi River, which turn out 800 tons of news print each day, the speaker pointed out that the production of paper from wood pulp is a Canadian achievement. In 1847 a man in Nova Scotia first evolved paper from wood and in 1851 he had a successful plant at Brockville. In answer to questions Dr. Jackes said that in his opinion the people of Ontario are not taking advantage of the agricultural possibilities of Northern Ontario as much as they might. Most of the homesteaders there were from Quebec, and were doing well.

Former Paper Man Now Heads Toronto Police

Widely known in the Canadian paper trade through his several years connection with the Abitibi Power and Paper Company, Ltd., Brigadier-General Dennis C. Draper, C.M.G., D.S.O., Quebec, has been appointed Chief of Police of Toronto at a salary of $7,500 a year. General Draper did great work during the World War. With the commencement of hostilities he entered the 5th Canadian Mounted Rifles as one of its original officers, with the rank of Major. On the night of June 2, 1916, as Major Draper, he earned for himself promotion to the rank of Lieut.-Colonel, as well as the coveted decoration of the Distinguished Service Order. On that night, at Maple Copse, in France, after a day of heavy and incessant shell fire and generally trying conditions which cost the C. M. R.'s many casualties, the Commanding Officer, Colonel Baker, was killed in action. Major Draper succeeded to the command, and carried on throughout a night of heavy fighting in which he distinguished himself brilliantly and repeatedly. As Lieutenant-Colonel Draper he continued as O.C. of the C.M.R.'s until May, 1918, when he was promoted to the command of the 8th Canadian Infantry Brigade, a position he held until the Armistice. Since then he has been active in the interests of returned men. His paper connection also extends to the International Paper Company at Quebec, where he was born 54 years ago. His appointment to the Toronto Chiefship is viewed with great favor.

Installing a New Fourdrinier

Richard Gray, set-up expert for the Bagley & Sewall Company, of Watertown, N. Y., has arrived in Fort William and is now engaged in installing the new Fourdrinier in the mill of the Great Lakes Pulp and Paper Company. The machine has a wire width of 264 inches, which comes within six inches of the record machine made by the Dominion Engineering Works, of Montreal, for the great Gatineau mills of the International Paper Company. It will have a speed of 1,200 feet per minute and a twenty-four hour production capacity of approximately 175 to 180 tons. The world's biggest machine—306 inches wide—is under construction for this mill by Bagley & Sewall.

Fire Menace in North Ontario

Addressing a public meeting in Toronto this week, Dr. Robb, N. P. P. for Algoma, attacked the Liberal Government's record in connection with the pulp lands of Northern Ontario. "Some people seem to have as much knowledge of New Ontario as they have of Mexico," he said. "The greatest enemy of all is the destruction of our forests by fire, and fire has destroyed nearly six per cent more than has been used by the pulp industries." He declared that no pulp wood should go out of the country unless made into pulp. He pointed out that 1,500,000 cords of pulp wood exported had brought $60,000,000 and if it had been turned into pulp it would have realized $100,000,000 and created employment for our own people.

Spruce Falls Wins the Trophy

Winners of the First Aid Trophy presented to the Ontario Pulp and Paper Safety Association by R. A. McInnis, of the Anglo-Canadian Pulp and Paper Company for annual competition for 1927, were the four members of the team from the Spruce Falls Pulp and Paper Company, Quebec City. Runners up were the Howard Smith Paper Company team, from Cornwall. Individual medals were presented to the members of both teams by K. S. Maclaughlan, of the Lincoln Pulp and Paper Company, the results being announced at the annual meeting.

Safety Work in Paper Mills

Emphasizing the importance of co-operation by employers with the Workmen's Compensation Board in its work of rehabilitation of injured workers, Chairman V. A. Sinclair of the Board addressed the annual meeting of the Ontario Pulp and Paper Makers' Safety Association at the King Edward Hotel this week. Mr. Sinclair noted that wherever possible, injured workmen are brought to the factory as soon as possible, even if this can be done only at the expense of the Board. This help given by the employers has the effect of encouraging the workers and preventing them from becoming public charges. "Young men can be retrained in new occupations, without much trouble, but the foreigner and the older man must be carefully nursed back. Some say

nothing about relief until they have to, and then ask to be allowed to go back to their old jobs, but others make a ten per cent disability seem like a total disability, and want care in every way. This type of man is a trouble to us, but on the whole the majority of our claims are for minor injuries." Dr. Bell, Deputy Minister of Health, dwelt upon the need of adequate compensation for the medical work, to ensure properly trained men. Officers elected are as follows: H. St. J. Jarvis, of the Don Valley Paper Company, president; H. L. Schanche, of the Abitibi Power and Paper Company, vice-president, and A. P. Costigane, secretary-engineer.

News and Jottings of the Trade

The second machine of the Thunder Bay Paper Company, Ltd., at Port Arthur, Ont., has come into production. Nine reels of merchantable paper was run from the first batch of pulp. This 234-inch machine made 116 tons a day before it had been running a week. The Beloit Iron Works made the machine and the Harland Engineering Company the drive.

A. D. Whitelaw, superintendent of the Frankfort plant of the Canada Paperboard Company, was the victim of a painful accident when viewing a hockey game at Madoc, Ont., when he was hit on the point of the jaw by the puck. He went to work as usual but later had to be admitted to hospital where he is now being treated.

J. G. Sutherland, of the Mead Sales Company, Dayton, Ohio, and J. F. Patton, President of Mead Patton Company, Montreal, were business visitors in Toronto during the week.

K. S. Maclaughlan, general manager of the Lincoln Pulp and Paper Company, Merriton, Ont., was a caller at the sales office of the company in Toronto a few days ago.

The Fred W. Halls Paper Co., Ltd., Adelaide street West, Toronto, have just mailed out to the printing trade and other consumers of papers a very artistic and attractive sample book of Ontario-made offset papers. It is claimed that Ontario offset, with its exceptional brilliancy, its wide range of sizes and weights, and its attractive price, has a multitude of uses in which it will make possible superior results in letterpress printing. Stocks are carried in both Toronto and London, Ont., warehouses of the company. The book has a cleverly designed cover and one of the inside sheets contains an etching of the company's head office and warehouse in Toronto.

The annual display of De Lux line of papeteries made by Warwick Bros. & Rutter, King street West, Toronto, is now in progress in the company's beautifully fitted-up salon at the rear of their general offices in preparation for fall delivery for the next Christmas trade. This year's exhibit marks a great development in papeterie manufacture and is important to the paper box and paper board industries from the fact that many of the elaborate lines are individually packed in containers. One line shown folds outward for display purposes and when shipped from the warehouse it is folded inward, thus effecting a great saving in space. Both in style, box lining and stationery, the jazz age is reflected, practically every known shade and coloring having been employed in the production of the papeteries under the direction of Harry C. Woods, general manager of the company.

Charles F. Buss, general superintendent of the Provincial Paper Mills, and Mrs. Buss, have returned from a stay in Miami, Florida.

L. M. Knickerbocker, superintendent of the Port Arthur mill of the Provincial Paper Mills, Ltd., was a caller at the head office of the company in Toronto this week.

E. H. Wilkinson, head of the E. H. Wilkinson Company, Ltd., paper mill representatives, Melinda street, Toronto, returned this week from his annual business trip through the Canadian West to Vancouver and Victoria. Mr. Wilkinson visited most of the leading centers en route and declared that from a business and order standpoint his trip this year had been more successful than any hitherto taken. He found, he said, a particularly optimistic spirit prevailing throughout the West in the paper trade, combined with gradually increasing consumption of paper. He was accompanied on his trip by Mrs. Wilkinson.

The Toronto paper trade learned with considerable regret this week of the transference to the Montreal office of A. Huntley, who for the past fourteen years has been a member of staff in Toronto of the Hodge-Sherriff Paper Company, selling agents for Wayagamack kraft. Mr. Huntley came to Canada from London, England, in 1914, having been in the paper game in the British capital for some time before coming here. He has made a host of friends in the paper trade during his residence in Toronto, all of whom are sorry to see him leave.

Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 26, 1928.—The annual convention of the New England Division of the National Paper Box Manufacturers Association was held at the Statler Hotel, Wednesday, March 21, with more than 100 registering. Louis F. Ingalls presided. M. O. Hill was asked to serve as sergeant-at-arms. The following appointments were made: Nomination committee, Edgar E. Abrahams, Frank C. Babcock and E. F. Young. Resolutions committee, Ralph Harden, J. H. Adams and J. L. Redshaw.

A luncheon meeting of the Fine Paper Division of the New England Paper Merchants Association will be held Tuesday, March 27, at the Boston Chamber of Commerce.

Arthur E. Ham & Sons will hold "Worthy Week," beginning April 9, when they will display samples of fine printing from all over the country on Worthy paper. They will be shown in an exhibition room adjoining their offices at 10 High street.

The Storrs & Bement Company has become distributor of the Argonaut Cover, a new line with a three-toned effect, voicing the spirit of the times. This line is made by the Holyoke Card and Paper Company, in melon, aspen, orchid, hickory, ageratum, cinnamon, myrtle, geranium, and lobelia. The same company has also taken on 100 Per Cent Rag Book, made 17½x22½—66 em and 25x38—160 em, deckle and grain long way. Another new line of the Storrs & Bement Company is Utopian Deckle Edge Book, a rag content paper, made in white and India, both wove and laid.

The Carter Rice & Co. Corp. has sent out the large Oxford Book and a letter to all Boston advertising agencies explaining the manufacturing process and also sheets which demonstrate the printing qualities of the papers. In this way the concern hopes to influence the sale of Oxford papers through specifications.

The following from Boston and vicinity attended the convention of the National Association of Waste Material Dealers in New York last week: A. A. Fredericks, of the John A. De Vito Company; Robert Graham, of P. H. Graham & Sons; George M. Graves and Albert Eckert, of the G. M. Graves Company; Ben Gold, of the North Shore Waste Paper Company; Harry Woodward and William A. Lagarde, of Train Smith Company.

The March issue of "How," issued by Tileston & Hollingsworth, and edited by A. V. Howland, contains analyses of the February and March sheets of their 1928 calendar and samples of Milton Text in laid white, gray, brown and terra-cotta, and wove India, blue, green and golden-orange.

John Hewitt, Jr., of Paper Sales, Ltd., Toronto, Canada, a former salesman for Spaulding & Tewksbury Company, F. E. Risley, Eastern representative of the Mason Fibre Company, Laurel, Miss., G. W. Blunt White, of the Climax Paper Tube Company, Mystic, Conn., and A. H. Wilkins, of the Paper Service Company, called on the trade last week.

To Investigate Dumping of Pulp

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 28, 1928.—A thorough investigation is now in progress by experts of the Customs Bureau, Treasury Department, in connection with the alleged dumping of wood pulp in the United States from both Canada and the European countries. The alleged dumping applies more especially to the Pacific Coast according to the complaints which have been received. A preliminary survey made by the Customs Bureau showed sufficient evidence to justify a further study of the matter, it is said.

Grand Falls Power Plant Nearly Finished

Hydro-Electric Development to be Operated at Grand Falls By St. John River Power Co., Will Have Initial Capacity of 60,000 h.p., In Three Generators of 20,000 h.p. Each—International Paper Co. Will Shortly Erect Paper Mill to Use Portion of Power

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., March 26, 1928.—The hydro-electric plant at Grand Falls, on the Saint John River is nearly finished. This plant is to be operated by the Saint John River Power Company, a subsidiary of the International Paper Company. It will have an initial development of 60,000 h.p. in three generators of 20,000 h.p. each. The ultimate capacity will be 80,000 h.p. The company will soon build a paper mill to use a portio nof the power.

Paugan Falls Reservoir Formed

The big gates in the dam of the Paugan Falls power development were closed on Friday last, and since then the topography of the country side along the banks of the Gatineau river has been undergoing a decided change. The development is being carried out by the Gatineau River Power Company, a subsidiary of the International Paper Company, and no less than 174,000 h.p. is being harnessed at two stations.

With the closing of the gates, the waters of the Gatineau River, originally at an elevation of 350 feet, are being dammed back until they form a huge lake nearly fifteen miles long and in some places nearly a mile wide. The elevation of the river will be brought up to 442 feet, a rise of 92 feet.

As the dammed river rises, many old familiar landmarks in the low district are doomed to disappear, including a portion of the village of Lake Ste. Marie, where formerly stood an historic Roman Catholic church, presbytery and cemetary and a number of houses.

The village of Kazubazua, formerly some distance from the shores of the river will be brought to its brink; about six miles of country road will be under water and, in the river itself, where formerly eight falls and rapids tumbled a turbulent way down stream between rocky gorges, there will be a placid lake.

Help for Swedish Wood Pulp Trade

While manufacturers of wood pulp, the demand for which is only fair and the prices weak, are deriving some comfort from the expectation of a better market consequent on the lockout in the wood pulp mills in Sweden, it is expected that Swedish wood pulp will be landed in the port of Montreal this season in larger quantities than ever before. Doscher, Bendix and Co., of New York, who are steamship agents, ship brokers and forwarding agents particularly interested in the importation of wood pulp and paper stock, have decided to incorporate a Canadian subsidiary of their company under federal letters patent, and will open an office in Montreal within the near future.

V. B. Bendix had an interview with the Harbor Commissioners of Montreal a few days ago, and stated afterwards that he had been assured of adequate wharfage space on which to discharge the 68,000 tons of Swedish wood pulp that his firm intends to import this season. The product of Swedish mills has been passing through Montreal, enroute to United States points, for the last four years, but up till 1927 in no considerable quantity. Last year, he said, some 19,000 tons were transhipped here, but the possibilities of expanding the trade, to a point where between 200,000 and 300,000 tons may be brought in, are very bright.

Swedish mills, Mr. Bendix explained, are producing about 650,000 tons of high-class wood pulp a year. Of this, 200,000 tons are utilized in Great Britain and 50,000 on the Continent of Europe. The balance, or 400,000 tons, is shipped to the United States and has been imported through the leading American Atlantic ports, such as Baltimore, Philadelphia, New York, Boston and Portland, and particularly Baltimore. It has been found that the St. Lawrence waterway provides lower rates for the transportation of the wood pulp to the Central Freight Association territory, which extends from Buffalo to Pittsburgh to the Mississippi in a straight line. For this reason, therefore, it is cheaper to bring the commodity in through Montreal, transhipping here to canal-sized lake steamers or to freight cars. This above mentioned territory is a great paper producing area, Mr. Bendix continued, and has received practically all its foreign supplies through the U. S. Atlantic ports.

Small quantities have been imported directly into Canada, but there is a duty of 25 per cent exacted by the Dominion on foreign wood pulp, whereas it enters the United States duty free. It enters this country, therefore, in bond. There is every possibility of developing this trade much in the same way as the Montreal Harbor Commissioners have done with grain and coal, it was added by this New York importer, and everything is being done to facilitate the movement of the Swedish wood pulp through the port.

Through the co-operation of the Harbor Commission and the Montreal Board of Trade, the potentialties of the St. Lawrence route have been placed before a large number of wood pulp and paper stock importers in the Middle States of the United States. They have been receiving their supplies through U. S. Atlantic ports, having the right of specifying the routing. It has been pointed out by these two organizations that considerable saving in freight charges would result in the shipment of such commodities through the Port of Montreal for furtherance either by the all-water, or rail and water routes inland from this port.

B. C. Pulp and Paper Co.

The report of the British Columbia Pulp and Paper Company, Ltd., for the twelve months ending December 31st last is considered to be very satisfactory considering the less favorable market conditions which prevailed during the greater part of the year. This is the company which on November, 1926, took over the former Whalen properties.

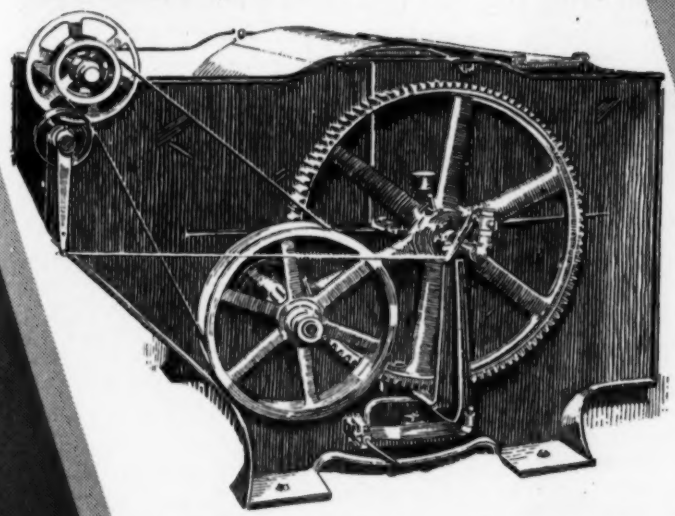
Operating profit of $777,551 was only $29,681 less than for previous year. First mortgage bond interest was earned 3.49 times, and general mortgage bond interest (after deducting interest on the first mortgage 6's) was earned 5.28 times, before depreciation. After writing off $384,861 for depreciation—or $10,000 more than the amount provided out of the previous year's earnings—and providing for Dominion and provincial income taxes, net profit was equivalent to $8.62 per share of 7 per cent. preferred stock, the dividends on which have been paid regularly to date. The preferred stock was given to first mortgage bondholders in lieu of arrears of interest on the old Whalen 6's.

In his report to shareholders, Lawrence Killam, president of the company, points out that the working capital position is considered very satisfactory; that maintenance of the company's plants and equipment has been properly carried out and expenditures on capital account to a net amount of $377,298 have been made, with the result of slightly increasing production, improving quality of products and reducing operating expenses.

Abitibi Co.'s Head Office

A special general meeting of the shareholders of Abitibi Company will be held on Monday, April 2, immediately after the annual general meeting, which is to be held at the same place on said date at 12 o'clock, for the purpose of considering and, if deemed advisable, approving a by-law changing the head office from Montreal to Iroquois Falls, Ont., where the company's main plant is situated.

BIRD
MACHINERY



There's Nothing Complicated About It

The Bird Save-All — gets the fibres out of the white water and puts the waste water in shape for use in the shower pipes. It does this in such a way that the cost per pound of fibre recovered is lowest.

Isn't that what you want in a Save-All?

BIRD MACHINE COMPANY
South Walpole - - Massachusetts

The BIRD SAVE-ALL

1823

Mosinee Paper Mills Co. Refinancing Plans

Bond Issue of $3,000,000 Has Been Authorized and Former Issues Will Be Called In—Production Has Grown From 17,877 Tons in 1916 to 26,306 Tons in 1927—Earnings Last Year Were $589,888, After Deducting Depreciation, Interest and Income Taxes

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 26, 1928.—Refinancing plans announced by the Mosinee Paper Mills Company, of Mosinee, Wis., formerly known as the Wausau Sulphite Fibre Company, will result in an annual saving of $30,000 in fixed charges and income tax.

Authorization has been made of a bond issue of $3,000,000, of which $1,700,000 first mortgage 5½ per cent bonds have been placed on the market for immediate sale. The proceeds will be used to retire outstanding 7 per cent gold notes and 7 per cent cumulative preferred stock. Because of the cheaper money market, the company deemed it wise to call in the former issues and offer the bonds instead.

Development of Organization

The Mosinee Paper Mills Company, under its former title of the Wausau Sulphate Fibre Company, was the first unit manufacturing sulphate pulp and paper in the United States, and is recognized now, after eighteen years devoted solely to making Number 1 Sulphate paper, as the leader of the industry. The company owns at Mosinee, Wis., modern and substantially built mills with a production capacity of 100 tons a day, and a 4,380 horsepower hydro electric plant, which have been appraised at $4,250,000. It owns also 37,342 acres of high-grade virgin timber reserves in northern Michigan, worth considerably more than their book value of $1,680,000. The growth of the business is shown by the following figures of the annual volume of shipments: 1916—17,877.9 tons, 1917—15,522.9 tons, 1918—17,579.3 tons, 1919—20,086.9 tons, 1920—24,943.8 tons, 1921—19,336.8 tons, 1922—20,680.4 tons, 1923—20,077.3 tons, 1924—23,071.7 tons, 1925—25,245.6 tons, 1926—27,643.7 tons, 1927—26,306.6 tons.

Officers and Directors

On the whole, the company is a self-contained, complete unit, from control of raw material and power, through the manufacturing processes, to the sale of a well-known, standard paper. The management and ownership are largely in the same group who originally organized it as the Wausau Sulphate Fibre Company, and are responsible for its success. The officers and directors are: F. P. Stone, president; A. P. Woodson, vice-president; John F. Ross, vice-president; Howard L. Dessert, secretary; A. L. Kreutzer, treasurer; Karl Mathie, chairman of the board; Geo. L. Ruder, Wausau, director; Henry M. Thompson, Milwaukee, director, and A. E. Beebe, Marshfield, director.

Much of the success of the organization is due to Norman S. Stone, who is the general manager. He is the son of the president and succeeded Olai Bache-Wiig, who, it will be recalled, was killed in an accident on Armistice Day, 1924. Mr. Stone has been with the company for approximately twelve years and has practically grown up with it. He has managed the affairs of the company with estimable judgment and signal ability.

Property of Company

The Mosinee Paper Mills Company owns over 200 acres of land at Mosinee, Wis., on the Chicago, Milwaukee, St. Paul and Pacific Railroad. It is a complete pulp and paper making unit, from saw mill to three Fourdrinier paper machines, with a capacity of 100 tons a day. All the machinery is modern, and the entire plant is maintained in a high state of efficiency. The company employs 475 men.

The organization also owns the 4,380 horsepower hydro-electric station at Mosinee which furnishes seventy per cent of its power requirements. This water power is capable of an ultimate economic installed generating capacity of 5,000 kilowatts, or approximately 6,250 horsepower. The hydro-electric possibilities of the Wisconsin River Valley have been thoroughly developed, and control of this power strengthens the position of the company materially.

Financial Condition

The balance sheet of the company on December 31, 1927, adjusted to reflect the completion of this financing, as certified by Brown Katzenbach, consulting accountant, shows net tangible assets available for these bonds of $6,880,439 or over $4,047 for each $1,000 bond. The mortgaged property alone has been appraised by Orbison & Orbison, consulting engineers, at $4,250,000, or two and one-half times the amount of bonds outstanding. Timber lands are shown in this balance sheet at their book value of $1,680,861. The company has actually invested in these lands, including original cost and cash carrying charges, over $2,150,000, and believe that their actual value is more than that amount. The company's current position is strong, with a ratio of current assets to current liabilities of 4.4 to 1. There are no bank loans, the only liabilities other than the bonds being accruals and accounts not yet due.

Net earnings available for depreciation, interest and income taxes for the last five calendar years have averaged $625,836 or 6.69 times the maximum annual interest on these bonds. The average after deducting depreciation has been $422,335 or 4.51 times such interest. For the year 1927 these figures were respectively 8.26 and 6.31 times such interest. The maximum annual charge, until 1942, for *both principal and interest* of bonds of this series, will be less than $200,000. The average earnings available, as stated, for depreciation, income taxes and interest, for the last five years have been 3.21 times this maximum charge.

Paper Demand Lively in Boston

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 26, 1928.—Greater general demand has continued for paper in the Hub market. Some houses have been particularly active, with numerous orders and inquiries. A number have not secured more than a fair volume of orders, and with others business has been spotty, but no decrease in the amount is reported.

As a whole, conditions in paper stock remain fairly good, with reports somewhat varied. In some quarters, book stock is livelier, and the price of No. 1 heavy has been marked up from $1.50 to $1.60 to $1.55 to $1.65. The demand for book stock is greater because of the advance in the price of pulp. Declines have taken place in a few other grades. Solid ledger is now quotable at 2.10 to 2.25, compared with a previous figure of 2.25; white blank news at 1.40 to 1.50, compared with 1.50; old kraft at 1.90 to 2.00, against 2.10. In foreign rags, dark cottons are valued at 1.50, compared with 1.55.

The volume of orders for box board remains fair, without the snap to the market that wholesalers like to see. Hand-to-mouth buying prevails, but at any rate requirements are sufficient to keep board manufacturers operating on the five-day schedule. Values are unchanged.

A slight advance has taken place in polished twine. With cotton climbing up to 19 to 20 cents, one concern, at least, has marked up the price a cent. Polished twine had been selling at the same figure as unpolished. Manufacturers expect further advances.

1000 feet per minute continuous for one year

The Kilberry Patent Suction Roll installed on a news print machine operated continuously for one year at 1000 feet per minute without adjustment or loss of vacuum.

The Kilberry Roll is driven direct from the couch or press drives, without gears. The suction box is carried in self aligning ball bearings, within the steel journals. All adjustments are made from the front end of the roll.

Get the facts and compare values.

Our Products Meet Our Promises

KILBERRY Suction Roll

Downingtown Mfg Co. Downingtown Pa.

Paper Demand Gradually Improving In Chicago

Business Conditions Reported Much Better Than in Corresponding Period of Preceding Year—Marked Improvement Experienced in Request for High Grade Writings—Bond and Cover Papers Arousing More Interest Than For Some Time Past

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., March 26, 1928.—Real spring weather has greeted Chicago paper merchants as they have come down to work for the past week. The weather has acted very favorably on business conditions and the present increase seems to point out that the spring increase in business, long expected, is now a reality. No particular line is proving exceptionally sensational in reports of the week but the market in general is improving constantly and the trade is reported much better than at the same month one year ago.

Kraft is one of the very few lines that is slightly off, according to general reports. Tonnage is a bit light but dealers in this class of paper confidently expect an improvement as spring gradually comes on. Ground wood papers, book lines and high grade writings are in the class that has shown marked improvement and give promise of even better conditions. Bond and cover papers, as well as all grades of writing are, reported better, while the news print market continues to be in a position favorable enough to take up the large volume of production.

As spring business picks up so have the various Associations in the city begun to take a more active interest in general affairs and before the month is over the results of the intensive planning of the past months will be seen. Dealers are watching the proposed marketing plan of the National Paper Trade Association with great interest.

Salesmen Plan Active Year

The Chicago division of the Salesmen's Association of the Paper Industry is planning an active year, according to Jim Coy, who, although he is the re-elected president of the national organization, finds plenty of time to get enthusiastic about the division in which he makes his headquarters. As a starter the dinner and meeting of the association at the time of the meetings in New York was exceptionally well attended and showed a very satisfying increase in interest.

Walter Cox, of the Paterson Parchment Paper Company, vice president and head of the Chicago division, announced his resignation at the meeting in New York and H. W. Knott, manager of the Chicago division of the Eastern Manufacturing Company, with offices in the Conway Building, was elected to fill this vacancy.

Mr. Knott is one of the livest sales representatives in Chicago and under his leadership the association expects to keep pace with the activities of other groups. Luncheons are held every Monday at the Hamilton Club and a goodly turnout keeps interest very high and provides a working basis for profit by contact with other methods and experiences.

Miscellaneous News and Notes

L. G. Peede, advertising manager of Bradner-Smith & Co., is taking a trip to the Pacific Coast. He will make business visits to both Los Angeles and San Francisco during his several weeks' stay along the coast.

Estimators in printing plants and direct mail advertising men are making plans for a busy season as soon as Congress decides what rates shall apply to third class mail and post cards. Customers seem to want to get all lay-outs ready and campaigns completely mapped out ready to go and then wait until they see whether the actions of Congress will be favorable. If rates do become more to the liking of direct mail advertisers the estimators and advertising men look for quite a brisk business immediately. Paper houses are also hoping for the best.

The D. O. James Manufacturing Company, Chicago, makers of all types of speed reducers and cut gearing, announce the addition to their sales department of R. C. Bird, in the capacity of traveling sales manager. Mr. Bird, formerly with the Chain Belt Company, of Milwaukee, has spent some twenty years in working with power transmission equipment, and will be available to all interested in securing speed reducers for specialized jobs.

A. W. Nason, recently of the Ben Franklin Paper Company, and W. W. Quimby, of the Marquette Paper Company, are now associated with the Great Lakes Paper Company, of 515 South Wells street, in their sales department.

Samples of Pinnacle Embossing Enamel, Origa Writing and Westvaco Inspiration Eggshell have been mailed out to the trade during the past week by the West Virginia Pulp and Paper Company.

The paper trade is still commenting on the prospectus of the Mid-States Gummed Paper Company, shown for the first time at the convention in New York last month. The title of the prospectus is "The Story of Mid-States Really Flat Gummed Papers" and the book is chuck full of information on Mid-States lines, its sales policy and its steady and forceful growth through the sale of its products solely through the paper merchants who, by the way, are given a great deal of credit for the record of sales achievement.

"The Story of Mid-States Really Flat Gummed Papers" is 20 x 24 inches in size with great pages of heavy brown paper, cover-weight, all hand lettered instead of printed. It is bound in stiff leather covers with loose leaf binding. The size of the book, together with its unusually interesting contents, is making a favorable impression on those having an opportunity to see it. Among the Chicago distributors of Mid-States products are the Midland Paper Company and Dwight Brothers Paper Company.

Edgar A. Hall, general manager of Pilcher-Hamilton Company, 349 West Ontario, Chicago, was out of town the latter part of the week on a business trip covering Detroit, Cleveland and other cities.

Advertise Indian Chief Tumwater

In the advertising matter sent out by the Tumwater Paper Mills Company, near Olympia, Wash., the picture of the Indian chief "Tumwater," from which the locality takes its name, is featured prominently.

This plant began operation within the past two years, and is particularly fortunate in having a constant flow of pure artesian well water for its use, thus being assured of turning out a clean bright product from the plant.

Theodore Osmund is president and Ralph Shepherd is secretary. The mill is composed of a ground wood pulp unit with two four-pocket grinders, the necessary screens, beaters, jordans, wet machines, and a 134-inch fourdrinier paper machine from the Beloit Iron Works, for speeds up to 750 feet for the manufacture of wrapping papers, chiefly, although they also produce a very good quality of news print.

Sulphite for use in this plant is purchased from sulphite mills, while the ground wood supply comes from the woods of many privately owned interests in the adjacent district and from the spruce waste of some of the box factories, which are scattered through the Puget Sound region.

The mill has deep water connection by barge and truck within a mile of the plant.

AFAFAFAFAFAFAFAFAFAFAFAFAFAFAFAF

BOTTOM positions are strenuous...

but Albany "Tailor-Made" *Bottoms are designed and made to meet strenuous conditions*

A bottom board felt must have a pretty sturdy constitution to withstand the strains and stresses peculiar to this position and continue to do its part in producing good paper.

If any felt need be tailor-made, it is the bottom. Every plant, every machine, imposes different conditions on the felt; whippers, showers, drive tensions, all add their problems.

To-day, Albany Bottom Board Felts, — tailor-made to meet specific conditions on definite machines,—are the product of diligent research and investigation, of countless tests and checks, of new processes and new weaves developed to insure satisfactory performance under trying conditions.

Albany Bottoms are *better* bottoms, — their excellent records on steadily increasing numbers of board machines proves it. Don't be handicapped by tradition or habit, — try an Albany "Tailor-made" Bottom on this strenuous position and watch results.

Tell our representative every detail of your needs, for no detail is trivial in designing Albany Bottoms.

Every order for an Albany Felt is a "special" order. Every Albany Felt is "tailor-made" to fit specified conditions on the definite machine and position for which it is individually designed.

ALBANY FELTS

TAILOR-MADE BY ALBANY FELT COMPANY, ALBANY, NEW YORK

AFAFAFAFAFAFAFAFAFAFAFAFAFAFAFAF

Kimberly-Clark Ground Wood Mill Completed

Large Plant Located at Kimberly, Wis., Ready to Operate at Full Capacity — New P. A. "Paulson" Drum Barker Made by Manitowoc Engineering Co., Now Installed—Enormous Castings Manufactured by American Manganese Steel Co., of Chicago Heights

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 26, 1928.—With construction work practically completed in the wood room, the Kimberly-Clark Company is ready to operate its new ground wood mill at the large plant at Kimberly, Wis., to full capacity. Only one third of the equipment has been used since January, because the new drum barker and other machinery were not all in place.

In the new mill are six stones weighing 6,300 pounds each, and operated by three huge dynamos of 16500 h.p. They will consume 100 cords of wood daily, giving the mill a production of 80 tons.

One of the most important improvements in the wood room is the new P. A. "Paulson" drum barker make by the Manitowoc Engineering Company under license issued them by the Kimberly-Clark Company. The barker is the same size as the old one, but where the rings, tires and gears of the discarded one were cast in sections, these pieces on the new one were made in one casting. By using manganese steel, the barker is much stronger than the old one.

Castings prepared at the American Manganese Steel Company, of Chicago Heights, Ill., were the largest ever made there. The castings were shipped in three sections on specially built flat cars to the plant of the Manitowoc Engineering Company, Manitowoc, Wis., where steel channels of the drum were fabricated to fit the rings.

Each section consisted of one gear weighing 16,000 pounds, two tires weighing 10,000 pounds each, and two end rings weighing about 7,000 pounds each.

The foundation upon which the drum barker rests is 46½ feet long, 18½ feet wide and 30 feet high. The construction entailed the use of 45 carloads of stone, 23 carloads of sand and 13 carloads of cement. It is estimated that the foundation weighs 3,750 tons.

The barker is driven by a motor directly connected to a speed reducer, replacing the old type belt drive.

All of the finishing in the new ground wood mill is of white enamel, presenting a cheery appearance. Arrangement of the equipment included every precaution for safety and convenience.

Expansion of Moloch Plant Contemplated

Expansion of the plant of the Moloch Machine and Foundry Company, of Kaukauna, Wis., is contemplated in the near future, according to announcement made at the annual meeting of stockholders this week. Production has reached the point where the facilities are inadequate, and it will be necessary to enlarge the buildings, add more machinery and employ more men.

The company is operating twenty-four hours daily, with large crews day and night in order to fill the orders on the books. Plans for the enlargement are as yet indefinite. Practically all the rebuilding has been accomplished to replace the damage caused by a fire which destroyed the foundry.

R. M. Kanik again was elected president of the company at the annual meeting. Other officers are: Frank Charlesworth, Sr., vice president; Joseph J. Jansen, treasurer, and Hugo Weifenbach, secretary. Other directors are H. C. Cook, C. E. Raught, Charles Jacobson, L. F. Nelson and J. J. Martens.

Earnings on the total capitalization were 10½ per cent, as compared to a deficit of $2,500 the previous year. A special meeting will be held soon to declare a dividend on the stock.

Construction of New Consolidated Plant

An order has been placed with the Biggs Boiler Works Company, of Akron, Ohio, for the nine new digesters which are to be installed by the Consolidated Water Power and Paper Company at its branch mill, the Interlake Pulp and Paper Company, of Appleton, Wis., according to announcement of C. K. Boyer, mill manager.

Construction of the new plant which will house these digesters is to be started about April 1. The building is to be 60 ft. wide, 180 feet long, and 90 feet high. All construction will be done by crews under the direction of W. F. Thiele, chief engineer of the company, and his assistant, T. H. Utegaard. The work will probably be completed by December 1. The capacity of the new plant will be 95 tons of pulp a day, or about 28,000 tons a year. The present capacity is 24,000 tons annually.

The old digester plant will probably be torn down, or will be remodeled for other use. A total expenditure of $350,000 is contemplated.

Freight Rate Conflict

Wisconsin mills manufacturing napkins are greatly concerned over the possibility of being excluded from the southwestern markets because of a new schedule of freight rates which the Interstate Commerce Commission is expected to announce on April 1, and effective on May 16. A determined fight will be waged to have the schedules revised or the rates suspended.

This threat to Wisconsin mills came in a notice from the Southwest Freight Bureau that pursuant to the I.C.C. decision in the Consolidated Southwestern rate cases in all tariffs to be published effective May 16, paper napkins shall be eliminated from the list of paper and paper articles carrying commodity rates into the southwestern territory, including Oklahoma and Texas.

Under this change mills in this locality will not be permitted to mix napkins with paper towels and other products unless they are willing to pay the full class rates. Changes also mean that rates on paper napkins to that particular territory, no matter how shipped, will be increased in excess of 100 per cent. The present rate from Green Bay, Wis., to Oklahoma City, for instance, is 74.5 cents, and the proposed rate is $1.54.

In the Wisconsin petition to have the change prevented, it is claimed that the carriers are going outside of the order of the commission in the Consolidated Southwestern cases, and are violating the commission's order in the Minnesota and Ontario paper case in which the commission fixed the maximum reasonable freight rates from Green Bay to points in the southwest territory.

With competition keen between the Atlantic Seaboard mills and those of the Pacific coast, it is believed that the Wisconsin mills will be eliminated entirely from the southwest markets.

G. W. Mead Will Not Run for Senate

There will be no attempt on the part of George W. Mead, president of the Consolidated Water Power and Paper Company, of Wisconsin Rapids, Wis., to seek the office of United States senator of Wisconsin in opposition to Senator Robert M. LaFollette. When the manufacturer was informed of the movement started in his favor, he telegraphed from Florida that he would not be a candidate. He said, "I am content to serve another term as Mayor of Wisconsin Rapids and will not be a candidate for other political office." He has been spending a vacation at Miami Beach, Fla.

New City Park for Marinette

Marinette, Wisconsin, has been given a new city park through a gift of land by the Marinette and Menominee Paper Company. A warranty deed has been presented to the city which gives it the land known as Boom island, in the Menominee river. The island is between Marinette, Wis., and Menominee, Mich., and is to be converted into a beauty spot and playground.

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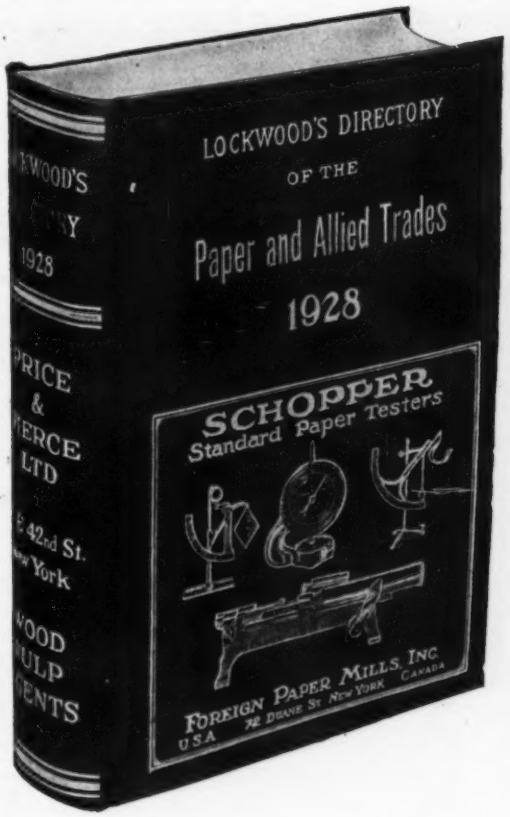
Mine of Valuable Information

LOCKWOOD'S DIRECTORY

of the Paper & Pulp *and* Allied Industries



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- Papeterie Manufacturers
- Prepared Roofing Manufacturers
- Rags and Paper Stock Consumed by the Paper Mills
- Stationers in United States, Porto Rico, Canada, Cuba, Hawaiian Islands and the Philippine Islands
- Statistical Table of Mills
- Tablet Manufacturers
- Tag Manufacturers
- Toilet Paper Manufacturers
- Trade Associations
- Twine Manufacturers
- Vegetable Parchment Manufacturers
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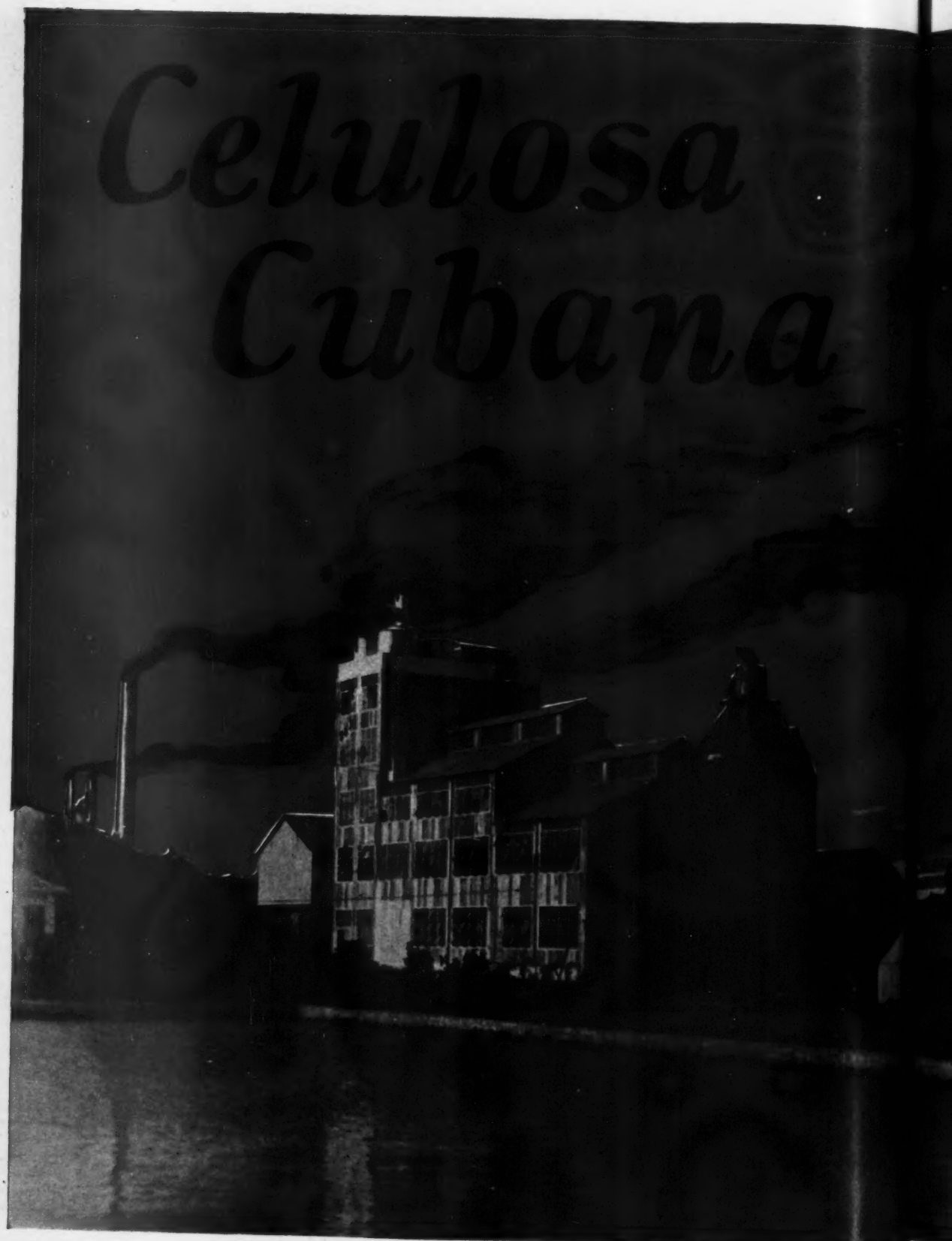
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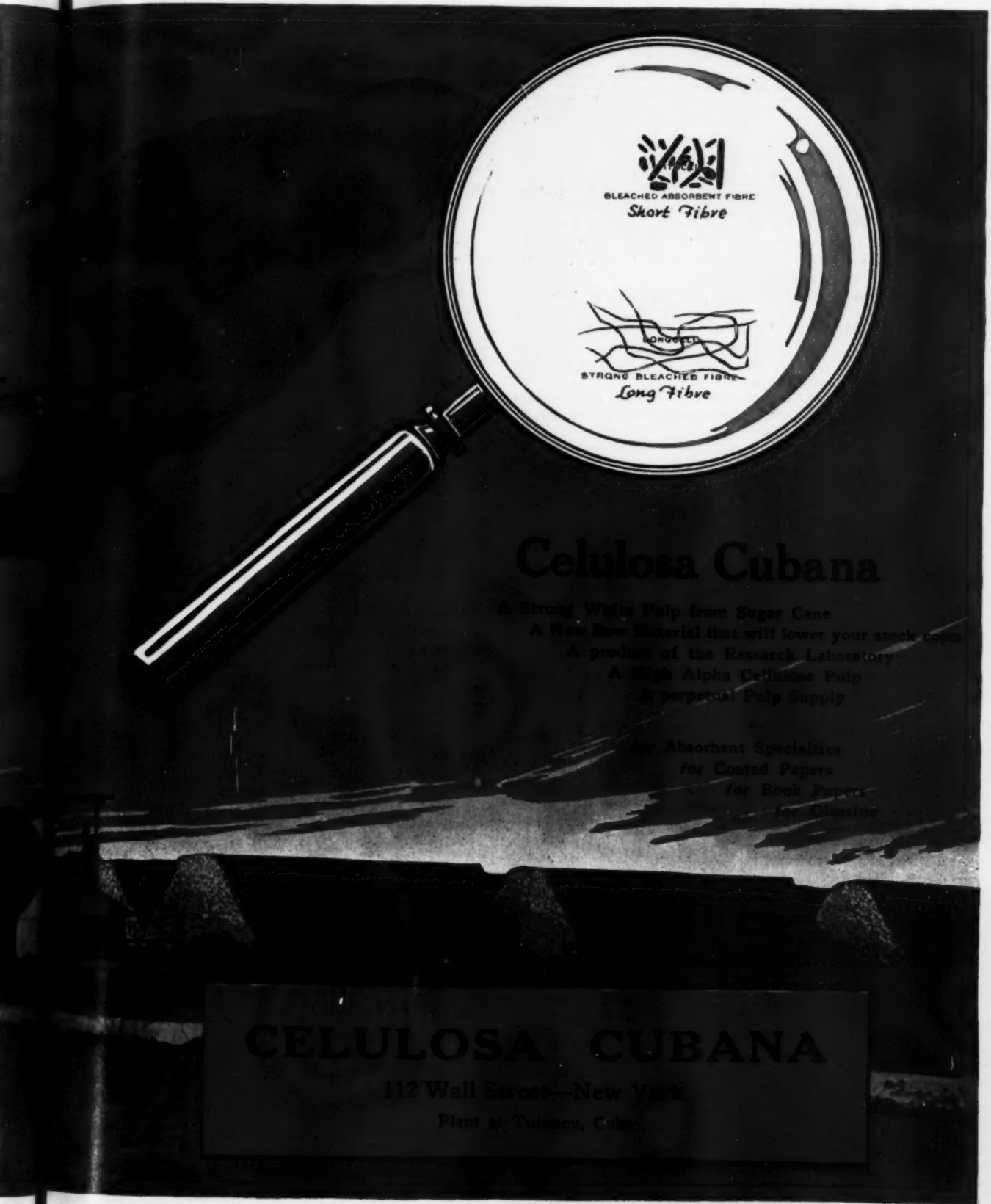
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Short Fibre
STRONG BLEACHED FIBRE
Long Fibre
Celulosa Cubana
A Strong White Pulp from Sugar Cane
A New Raw Material that will lower your stock costs
A product of the Research Laboratory
A High Alpha Cellulose Pulp
A perpetual Pulp Supply
for Absorbent Specialties
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Trade Mark Departments

CONDUCTED BY NATIONAL TRADE-MARK CO., WASHINGTON, D. C.

The following are trade mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, Barrister Bldg., Washington, D. C., trade-mark specialists. As an additional service feature to its readers, PAPER TRADE JOURNAL gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

FASHION, No. 254,491. Hoberg Paper & Fibre Company, Green Bay, Wis. For paper towels and tissue paper toweling.

BANDVELOPE, No. 257,586. L. A. Liebs Company, Inc., New York City. For combination bank and envelope preferably of paper intended to seal a package and in addition to contain a message of greeting or advertisement.

SUNGLO, No. 259,849. Fort Howard Paper Company, Green Bay, Wis. For toilet paper.

ECON-O-MAIL, No. 259,942. Brown Paper Goods Company, Chicago. For envelopes.

ZEELAND with picture. No. 247,298. Tapajna-Gary Paper Company, Gary, Ind. For toilet paper.

DEFIANCE No. 260,306. The Albermarle Paper Manufacturing Company, Richmond, Va. For blotting paper.

KORES No. 259,811. Wilhelm Koreska, Vienna, Austria. For writing paper, stencil sheets, tracing paper, pens, pencils, erasers, wrapping paper, copying paper, etc.

NANCY LEE No. 259,204. Fort Howard Paper Company, Green Bay, Wis. For toilet paper, paper towels, napkins, doilies, tablecloths, and tissue paper.

SHOKSORB No. 260,508. Kieffer Paper Mills, Brownstone, Ind. For indented packing paper.

TRIBRO No. 260,661. Wm. G. Willmann Paper Company, Inc., New York City. For printing and writing paper.

AIR LINE No. 258,434. Standard Paper Manufacturing Company, Richmond, Va. For coated, enameled, and plain blotting paper and coated paper, printing and writing paper.

KORES No. 259,810. Wilhelm Koreska, Vienna, Austria. For carbon papers, typewriter ribbons, inks for rubber stamp pads, duplicating inks, etc.

FIRMFOLD No. 258,607. The Union Paper and Twine Company, Cleveland, Ohio. For printing, writing and book paper.

Bathurst Power Co.'s Power Project

The New Brunswick Legislature has passed measures under which the new Bathurst Power and Paper Company will spend half a million dollars at least in developing the power resources of the company. The bills allow the company one year to start the power project and two years in which to complete the undertaking. Figuring that each developed horsepower costs $100, this means that the Bathurst Power and Paper Company will develop around 5,000 horsepower on the Nepisiguit River.

When the Bathurst Power and Paper Company recently acquired the property and undertakings of the predecessor company it acquired also the right to develop power, but the new owners of the property under the old leases would not have had sufficient time to plan and to erect the projected hydro undertaking. Hence, bills were introduced into the provincial house which further extended the time for the commencement and completion of the power project.

New Catalog on Air Heater

An interesting new catalog just published tells how paper mills can obtain heated air at practically no cost for drying paper, for heating buildings and to remove steam mists. This catalog illustrates and describes the Thermix Air Heater which utilizes waste flue gas to heat the air.

No doubt the Prat-Daniel Corporation, 101 Park avenue, New York, will be willing to send a free copy of this publication to readers who ask for catalog 15-T.

K. V. P. Co. Builds Model Office Structure

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., March 26, 1928.—Efficiency of the executives and office employees of the Kalamazoo Vegetable Parchment Company is to be promoted through the installation of a sound deadening treatment that is now being installed in the new office structure that is being built for that company.

Billingham & Cobb, architects, governed by the long recognized principle of scientists that noise promotes fatigue and that fatigue in turn lessens efficiency, in designing this office structure, have sought out a method whereby the noise in the building can be minimized as far as possible.

Working along that line plans for the building were submitted to the United States Gypsum Company, who recommended an acoustical treatment invented by Dr. Paul E. Sabine. This treatment makes use of a plaster invented by Dr. Sabine and known as sabinite. It is said it absorbs sound. Rather it changes a portion of the sound energy that strikes against it to heat energy.

Twenty-three tons of sabinite are required for the Parchment office job and it is being applied under the supervision of Equal & Verin, plastering contractors. It is used both in the ceilings and side-walls. Johnson-Howard Company furnish this material.

Another unique feature in the building, according to O. F. Miller, general contractor, is the installation of a ventilating system that changes the air in the building six times every hour, washing all air that enters the building, thus keeping it sweet and pure. With the adoption of this ventilating system all windows are set in solid steel casements and can be neither lowered nor raised. Light only passes through the windows. This eliminates drafts of air sweeping through the office spaces, subjecting office employees to possible colds.

Bloedel-Donovan Pulp Mill Project Alive

[FROM OUR REGULAR CORRESPONDENT]

SEATTLE, Wash., March 22, 1928.—It is now reported that the Bloedel & Donovan pulp mill project at Bellingham, Wash., is not dead as was thought, but on the contrary, is progressing quite favorably. Since the return of J. J. Donovan from the East the statement was reported to come from him that his company would not engage in the manufacture of pulp in connection with the saw mill business. However, later events proved that the project is progressing as favorably as conditions warrant. The extent of the proposed operations is not disclosed, but it is supposed to involve the expenditure of over $2,000,000 and the product will be sulphate pulp.

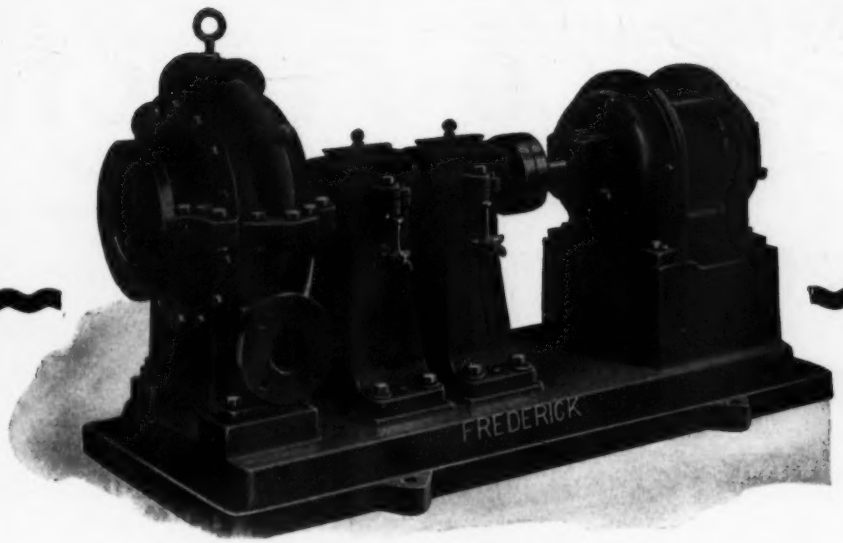
The city of Bellingham granted certain water rights to the Bloedel & Donovan Company for use in the proposed mill of an extent that would indicate an operation of nearly 200 tons capacity.

A $12,000,000 to $15,000,000 Project

I. W. Killam, of Montreal, has been in Halifax for the past few days in connection with his project for the erection of a large news print mill and power plant, and from Halifax it is reported that the project will involve an expenditure of between $12,000,000 and $15,000,000. Final details of an agreement are now being worked out with the government of Nova Scotia. As already reported, the plant will probably be on the Mersey River, near Liverpool, N. S.

Connecticut Valley Cost Accountants Meet

The Connecticut Valley Division of the Cost Association of the Paper Industry met at the Highland Hotel, Springfield, Mass., yesterday. Professor T. H. Sanders, of the Harvard University School of Business Administration, addressed the gathering on "Fundamental Objectives of Cost Accounting." Thomas J. Burke, C. A., secretary and treasurer of the Cost Association of the Paper Industry, was in attendance.



Horizontally Split Case, Direct-Connected Stock Pump

A list of Frederick "Stock Pump" Users, reads like the "Blue Book" of Paper manufacturers

—for instance, such concerns as: International Paper Co., West Virginia Pulp and Paper Co., Brown Co., Dill & Collins, New York & Penna. Co., Jessup and Moore Paper Co. and a host of others. These concerns purchased FREDERICK PUMPS, because they were desirous of REDUCING THE POWER required to move the "stock."

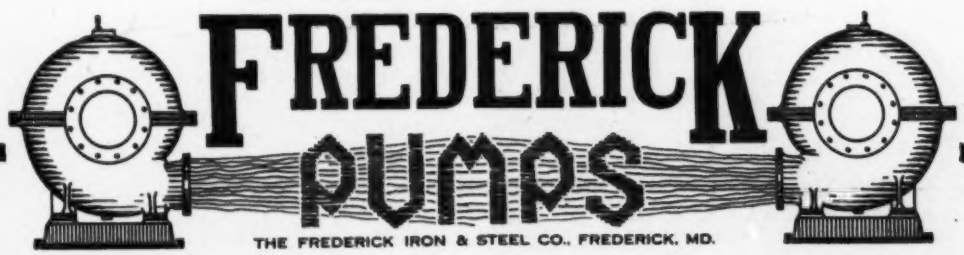
FREDERICK STOCK PUMPS are daily replacing the old-style "fan type" pump, solely because they DO consume less power and because they are especially designed and carefully made to give high EFFICIENCY and LONG LIFE when pumping stock of consistencies from 1% to 4%. (Incidentally for consistencies up to 6% the "special" FREDERICK SUPER-STOCK PUMP acknowledges no superior).

There's a Frederick Centrifugal Pump for every Paper Mill Service: Water Supply—Power House—Ground Wood Mill—Sulphite Mill—Soda Mill—Paper Machine.

Of course, all FREDERICK CENTRIFUGAL PUMPS possess some mechanical features not found in other pumps,—but after all, the best test of any pump is:

—WHAT KIND OF SERVICE IS IT GIVING DAY-IN AND DAY-OUT FOR OTHERS.

P. S.: We have prepared a SPECIAL PAPER MILL BULLETIN,—copy upon request.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Long Island City, N. Y.—Huschle Brothers, Inc., Anable avenue and Creek street, Long Island City, Anthony J. Huschle, head, manufacturer of paper boxes and containers, will proceed at once with the construction of its proposed new plant on Thirty-seventh street, to be three-story, brick, reported to cost about $125,000, with equipment. General building contract has been let to the Ettinger Security Construction Company, 50 Court street, Brooklyn. Frank S. Parker, 119 West 57th street, New York, is architect.

St. Joseph, Mo.—The Stewart Inso Board Company, Lake Road, St. Joseph, Mo., has approved an expansion and improvement program at its wall board manufacturing plant, and will proceed with work on three new units immediately. These structures will include three-story addition to rotary division, 50 x 72 feet; one-story extension to main manufacturing unit, 40 x 600 feet; and one-story storage and distributing building, 60 x 200 feet. The entire project will cost close to $200,000, with machinery, and it is understood that orders for necessary equipment will be placed at an early date. A contract for structural steel frame work for the new units has been let to the St. Joseph Structural Steel Company, Ninth street. A. G. Gibson is company engineer, in charge of construction. A. D. Stewart is president.

Jefferson City, Mo.—The Missouri Paper Box Company, Jefferson and Water streets, is reported to be approving plans for the proposed rebuilding of the portion of its plant destroyed by fire several weeks ago. It is understood that new equipment will be installed. Fire loss approximated $25,000.

Putney, Vt.—William Lay, Springfield, Mass., has concluded negotiations for the purchase of a controlling interest in the W. A. Cole Paper Company, with local mill, heretofore held by Frank E. Barber, Brattleboro, Vt. Mr. Lay will become actively interested in the organization, and has been elected president. It is reported that an expansion program will be carried out for increased output.

Poughkeepsie, N. Y.—The Roberts-Boyce Paper Company is said to have authorized plans for the rebuilding of the portion of its storage and distributing plant, lately damaged by fire with reported loss totaling close to $100,000.

Baltimore, Md.—The Chesapeake Paper Board Company, Key Highway and the Baltimore & Ohio Railroad, has plans maturing for its proposed new plant additions, for which Karl A. Lefern, 171 Madison avenue, New York, architect and engineer, has been retained. The work will include a new one-story machine room addition, 40 x 250 feet; two-story beater room, 85 x 200 feet; and one-story warehouse and distributing building, 80 x 120 feet. It is proposed to increase the present output to about 75 tons of finished material in twenty-four hours. The entire project is reported to cost more than $125,000. Equipment purchases are to be made immediately.

Newark, N. J.—The International Fibre Corporation, recently organized with capital of $100,000, by Charles J. Basch, Jr., 67 Seventh avenue, Newark, and associates is reported to be planning the operation of a local mill for the production of a line of fiber products. Jacob G. Handal, 30 East 21st street, New York, is also interested in the organization.

Appleton, Wis.—A portion of the Patten Paper Mills, 430 East North Island street, leased to other interests, recently destroyed by fire, will not be rebuilt at the present time.

Milwaukee, Wis.—The American Art Box Corporation, recently organized by Chauncey E. Blake, Milwaukee, and associates, with capital of $10,000, is said to have plans for the operation of a local plant for the manufacture of paper boxes and containers.

Chicago, Ill.—The Acme Card System Company, Chicago, has concluded negotiations for the purchase of a three-story factory at Belmont and East Ravenswood avenues, 100 x 125 feet, and will use for a new plant for the manufacture of card stocks, devices, etc., for office service. The plant approximates 37,500 square feet of floor space, and will be given over entirely to manufacturing operations.

Wellsburg, W. Va.—The George & Sherrard Paper Company, an interest of the International Paper Company, New York, has plans maturing for its proposed new plant additions, with installation of equipment for the manufacture of special paper bags for cement, lime, etc. The work is reported to cost more than $80,000, with machinery.

Indianapolis, Ind.—The Bethard Wall Paper Company, 415 Massachusetts avenue, is said to be planning the early rebuilding of the portion of its storage and distributing building, destroyed by fire March 15, with loss reported at more than $100,000.

Wheeling, W. Va.—The United States Corrugated Fibre Box Company is perfecting arrangements for the construction of its proposed plant addition, for considerable increase in present output, reported to cost more than $100,000, with equipment; it is understood that call for bids will be made shortly. H. J. Lacy is in charge.

Detroit, Mich.—Beecher, Peck & Lewis, Inc., 125 West Jefferson avenue, paper products, will soon complete plans for a proposed new addition for storage and distributing service, to be two-story and basement, reported to cost more than $45,000, with machinery. Albert Kahn, Inc., 1000 Marquette Building, is architect and engineer. Harold Helman is president.

Holyoke, Mass.—The Marvellum Company, Holyoke, manufacturer of decorative paper products, is understood to be making ready for early occupancy of former local plant of the Whitmore Manufacturing Company, Canal and Appleton streets, recently acquired. Improvements are in progress and a complete new operating unit will be developed.

New Companies, Etc.

Philadelphia, Pa.—William A. Coll Company, 1118 Bainbridge street, Philadelphia, paper products, has been organized by William A. Coll, Collingswood, N. J., and Harry Jaffe, 222 South 56th street, Philadelphia. Headquarters will be maintained at address noted.

Houston, Tex.—The Sun Wall Paper Company has been incorporated with capital of $2,500, to manufacture and deal in

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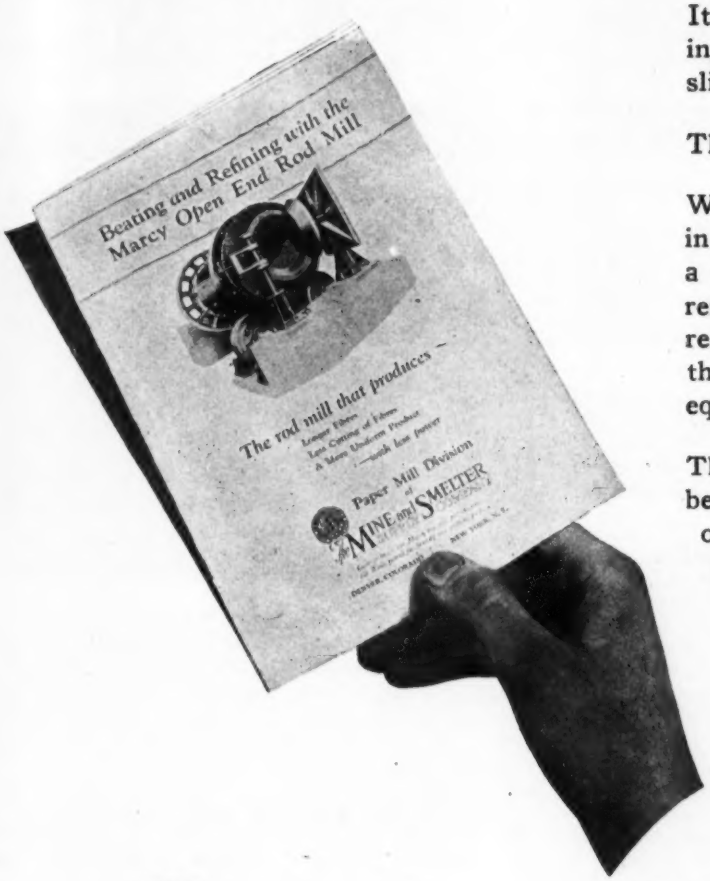

It tells the story of better beating of pulps and refining of slivers by

The Marcy *Open End* Rod Mill.

Wide interest has been aroused in the adaptation of rod mills to a new process for beating and refining. Commercial units already in service have established the superiority of this type of equipment.

The Marcy *Open End* Rod Mill, because of several exclusive operating advantages, provides even better rod mill practice. Actual operations bear out this statement.

The details are given in a new catalogue just issued. Shall we send you a copy?

Licensee Under the Marcy Rod Mill Patents and the Wells Patent for heating and refining pulp.

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PAPER MILL DIVISION

DENVER, Col. NEW YORK, N. Y.

Marcy Rod Mills are manufactured and sold in Canada by William Hamilton Limited, Peterborough, Ontario.

The Mine & Smelter Supply Company,
Paper Mill Division,
Denver, Colorado.

Gentlemen:

We would like to receive a copy of your new bulletin No. 75 describing the advantages of the Marcy Open End Rod Mill for beating and refining.

Name and title .....

Company .....

Address .....

wall papers. The incorporators are R. J. Horne, F. F. Conklin and T. J. Stovall, all of Houston.

Brooklyn, N. Y.—The Gibraltar Corrugated Paper Company has filed notice of company dissolution under state laws.

Wilmington, Del.—The Middle States Paper Mills, Inc., Wilmington, care of the Corporation Trust Company of America, duPont Building, Wilmington, representative, has been incorporated with capital of $200,000, to manufacture paper products.

Laurel, Miss.—The Mason Fibre Company has arranged for a change of name to the Masonite Corporation, and will operate in the future under this title; the company has also arranged for an increase in capital of $1,200,000 to $3,000,000, a portion of the proceeds to be used for expansion both in plant and general operations. Work is under way on a new one-story addition, 100 x 400 feet, to be used primarily for the production of fiber board products, reported to cost close to $100,000, and it is understood that further extensions will be developed for increased plant capacity in the near future. W. H. Mason is vice-president.

Grand Rapids, Mich.—The Wood and Fibre Products Company has been incorporated with capital of $10,000, to establish and operate a local plant for the manufacture of fiber shipping containers and kindred products. The incorporators are Bert W. Preston, Collins F. Fuller and Lloyd E. Babcock, 3252 Monteray street, Detroit. Last noted heads the company.

New York, N. Y.—John H. Free, Inc., New York, has recently been incorporated with capital of $25,000, to manufacture and deal in paper boxes and containers. The incorporators are John H. Free and Henry Stapel, Ridgewood, N. Y.

Union Head Visits Maine and Quebec

ALBANY, N. Y., March 26, 1928.—William R. Smith, president of the International Brotherhood of Papermakers, and John P. Burke, of Fort Edward, head of the Pulp, Sulphite and Paper Mill Workers' Union, were in Augusta, Me., this week and conferred with representatives of the Cushnoc Paper Company relative to the renewal of the present wage and working agreement. Messrs. Smith and Burke also addressed a large joint meeting in that city of Maine locals of the two international unions.

President Smith of the Brotherhood recently spent some time in the Province of Quebec on union matters. The Brotherhood is without an organizer in Quebec since the election of Arthur Huggins as international secretary. Mr. Huggins was in charge of the Canadian branch of the Brotherhood for some time and under his direction the Quebec locals made considerable progress. President Smith's visit to Quebec Province is understood to have been influenced by a desire to look over the ground before appointing a successor to Mr. Huggins. Frank P. Barry, vice president of the Brotherhood, is now doing organization work at Hull and Ottawa.

Kalamazoo Trade Notes

KALAMAZOO, Mich., March 26, 1928.—F. M. Hodge, president of the Kalamazoo Paper Company, has returned from a six weeks' journey to the Hawaiian Islands. He was accompanied by Mrs. Hodge.

L. W. Sutherland, president of the Sutherland Paper Company, and Mrs. Sutherland, are home from an extended stay in the southland.

Merrill B. King, president of the Rex Paper Company; Felix Pagenstecher, president of the Bryant Paper Company, and B. C. Dickinson, president of the Standard Paper Company, have been visiting at Miami for several weeks. During a recent fishing trip they caught no less than forty king fish, averaging four to five pounds in weight, in two hours' time.

Eau Claire Book & Stationery Company, of Eau Claire, Wis., one of the three largest school supply distributors in the United States, has invaded Michigan through acquisition of the Michigan Educational Company at Lansing. They will operate it as a sales branch. W. T. Bishop, former secretary-treasurer and general manager of the Lansing Company, will continue as manager.

New Home of Storrs & Bement

BOSTON, Mass., March 26, 1928.—In their new, commodious quarters which have been previously described in these columns, the Storrs & Bement Company, 282 Congress street, are seeing their old friends and many new faces. They have already overcome all difficulties encountered in moving and orders are going out on schedule.

J. H. Brewer has recently become general manager of the Storrs & Bement Company. Mr. Brewer was at one time in the

NEW QUARTERS OF STORRS & BEMENT CO.

research department of the American Writing Paper Company, Holyoke, Mass., where he gained a knowledge of the making and testing of fine papers. For eight years he has been in charge of the fine paper department of Storrs & Bement, which has shown a tremendous growth and ranks very high in the trade throughout the United States.

To Sell Berkshire Hills Paper Co.

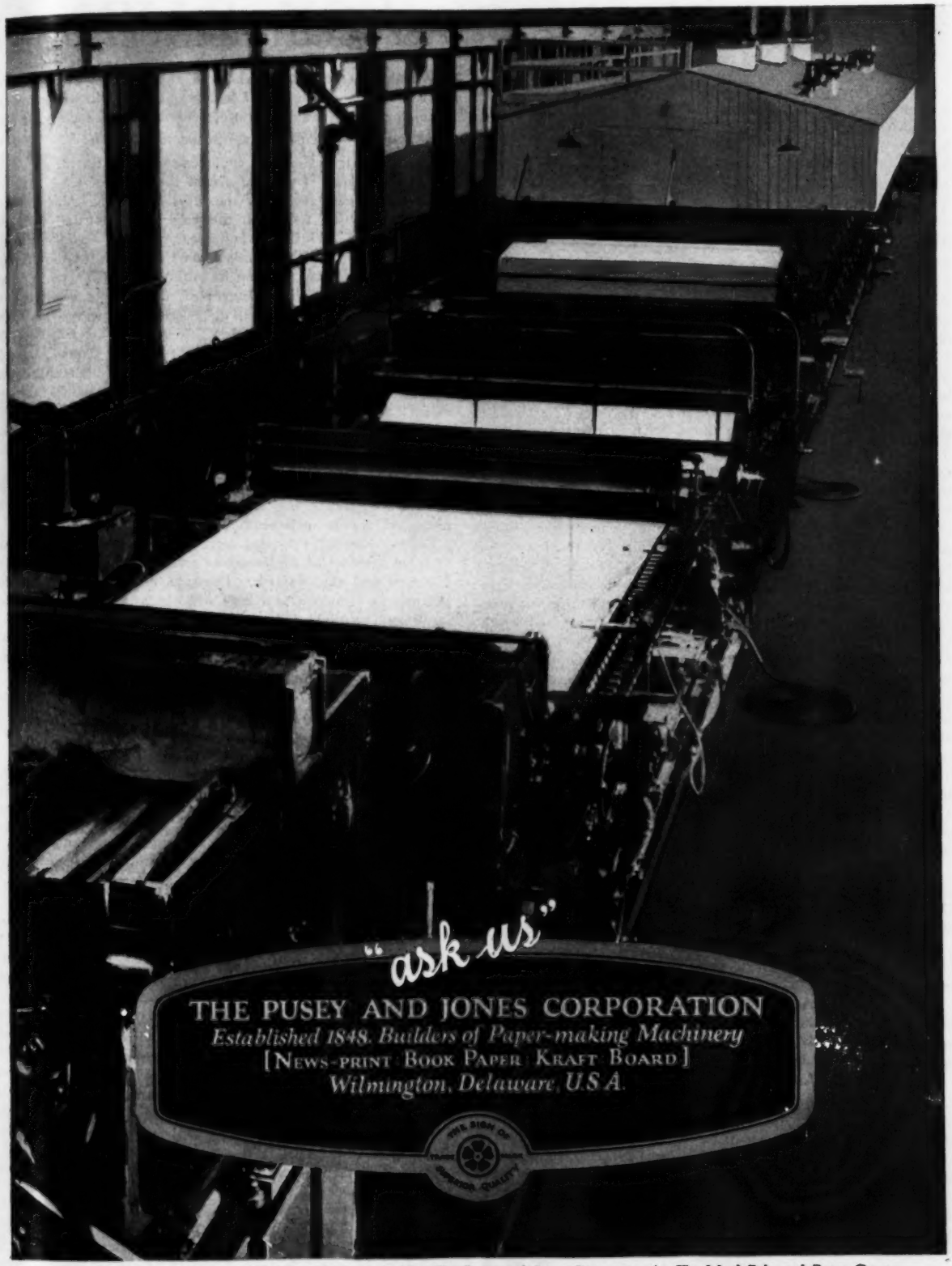
PITTSFIELD, Mass., March 27, 1928.—The property of the Berkshire Hills Paper Company, of Adams, is to be sold at public auction in April. Last week Judge William A. Burns allowed the petition of Alice C. Harrington, of Adams, for leave to intervene as party defendant in the real estate foreclosure case of the First National Bank of Boston, whose claim on March 3 was for $601,150 against the Berkshire Hills Paper Company.

On March 3 last Henry L. Harrington, of Adams, and Noble B. Turner, of Housatonic, filed a petition for leave to intervene and the petition was allowed. The petitioners sought to establish their lien as superior in right and prior in equity on the paper company's property. The lien was claimed by virtue of two mortgages given by the Berkshire Hills Paper Company to them and recorded February 1, 1926, and April 13, 1927.

Wisconsin Forestry Conference

F. E. Sensenbrenner, of the Kimberly-Clark Company, is to be one of the speakers at the Wisconsin Forestry Conference, to be held March 28 and 29 at Milwaukee, Wis. This will be one of the most important meetings in the history of the state, because it will be an attempt to put into operation measures which will preserve the remaining Wisconsin timber according to the possibilities of recently enacted legislation.

Other speakers on the program will be state officials, lumbermen, university experts and others. The list includes: Governor Fred R. Zimmerman; Louis B. Nagler, state conservation commissioner; Glenn Frank, president of the University of Wisconsin, Dean H. L. Russell, of the Wisconsin College of Agriculture; Walter B. Heinemann, Wausau lumberman, and others.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Boston Paper Trade Association Meeting

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 24, 1928.—With 129 members and guests present the 42d annual meeting and dinner of the Boston Paper Trade Association was held at the Algonquin Club, Wednesday, March 21. Norman Harrower, retiring president, was toastmaster. The speaker of the evening was Edward R. Armstrong, A. S. C. E., A. I. E. E., whose subject was "The Seadrome System of Ocean Transit by Airplane."

The following new members were elected: Arthur M. Bartlett, Alfred L. Gooch and Willard H. Loud, of Stimson & Co., Inc., proposed by William W. Jenks, and Edward B. Dik, of North Leominster, Mass., proposed by Norman Harrower. These men, with Nelson Feeley, H. E. Lindquist and Philip R. Allen, elected at the November meeting, make seven new members elected to the Association during the year.

Secretary F. Bendel Tracy stated that there was a membership of 200. Taps were sounded with all present standing after he had read the names of those members who had died during the year. They were John R. Bartlett, C. S. Bird, Herbert E. Fales and Garret Schenck.

Treasurer Thomas H. Casey in his report showed a balance of $4,781.91 in the treasury, a gain of $300 over that of the previous year.

Officers Elected for Ensuing Year

The nominating committee before offering their nominations for the ensuing year, wished to announce with deep regret that Joseph D. Snell who had served the Boston Paper Trade Association faithfully for several years as secretary and vice-president found at this time that he was unable to accept the nomination for president. J. W. Vivian, chairman, read the names proposed by the committee who were elected as follows:

President, Hubert L. Carter; first vice-president, Albert R. Smith; second vice-president, Charles A. Esty; treasurer, Thomas H. Casey; secretary, F. Bendel Tracy. Executive committee: Norman Harrower, Charles W. Fields and W. E. Porter, Jr. Membership committee—Perry B. Von Olker, chairman, W. W. Jenks, Charles A. Young, Royden Loring and R. M. Stone. Arbitration committee—George W. Wheelwright, chairman, Arthur L. Hobson, Irvink N. Esleeck, W. E. Pratt and Willard F. Smith. Auditor, C. H. Wood. The nominations were respectfully submitted by J. W. Vivian, C. S. Proctor, C. L. Bird, C. A. Esty and William B. Stevenson.

Retiring President Harrower said he had had a good time while president and appreciated the opportunity to serve the association. He asked all members to stand while he presented the gavel of office to Mr. Carter.

President-elect Carter said he did not know whether he should join in regret for Mr. Snell or express thanks for the honor conferred upon him.

The toastmaster recalled that a year ago he read a letter from Governor Fuller, who was unable to be present because he was in the midst of the Sacco-Vanzetti trial. This year he was unable to attend because of the pressure of business.

E. R. Armstrong Addresses Gathering

Retiring President Harrower then introduced Mr. Armstrong, saying that he represented a group of people that some might characterize as a kind of Jules Verne. He was one of the chief engineers of the Dupont Company on leave of absence to develop his scheme of seadromes. Mr. Armstrong said in part:

"In contemplating the use of the airplane for the greatest benefit of business the plan was conceived of having landing stations. The ocean is two or three miles deep and it is difficult to establish an anchoring system. The airway stations must be built to withstand storms on the North Atlantic coast. The waves you see are entirely on the surface. Fifty feet below the surface the sea is not disturbed. If you could build a floating structure so that it would be above the waves it ought to be safe, because the impact is only where there is any maetrial to obstruct the waves. It would have to be built so that the still water structure would be relatively small, in order for the wave effects to be small.

Demonstrates Seadrome System

The structure has had the endorsement of our marine authorities, of England and France, and almost the Navy here. I have constructed an exact replica of the *Majestic* and have demonstrated the effect of the waves on the model as compared with their effect on a model of the seadrome, producing waves comparable to waves 50 feet high in proportion to the size of the *Majestic*. The result is exactly the same as in the ocean. (This was demonstrated later by moving pictures of a test on a small body of water showing, Mr. Armstrong making the waves by a contrivance operated by his hands.)

The seadrome is built high enough to be safe from a wave 200 feet high. Waves are usually about 30 feet high and 40 feet is high for a wave. A seadrome is so constructed that it is not subject to the same conditions a steamship is subject to. The whole system of seadromes, eight across the Atlantic at intervals of 300 miles would cost less than one steamship. The structure is 1200 feet long, about 400 feet wide in the center, tapering to 200 feet at the ends. It is made of iron and buoyed up by air-chambers extending into the water. Stability is obtained by the center of gravity underneath the center of buoyancy."

Slides followed by moving pictures were flashed on the screen, showing a model of the seadrome and the effect of waves on the seadrome and the *Majestic*. The structure is a Dupont product and may be compared to a table with the legs underneath containing chambers divided into airtight compartments. One end of the structure is anchored by a saucer shaped arrangement, and connected by a cable. Blueprints showed the plan of the lower section of the seadrome and other sections.

The present plan is the formation of a concern amply capitalized to own the system. While Mr. Armstrong has worked as an engineer for the Dupont that company has nothing to do with the plan.

At the close of his talk, Mr. Armstrong answered several questions. He said that Colonel Lindbergh had endorsed the plan. Experiments are to be made on a far larger scale to ascertain what effects currents will have. The scope of anchorage is a little more than 20,000 feet. The cable weighs 300,000 pounds. The complete cost of the proposed eight stations is $15,000,000. It is expected that they will be in operation within a few years.

Mr. Armstrong received great applause for his lecture.

Retiring President Harrower said that Mr. Armstrong was not a professional lecturer and had come out of the kindness of his heart and through friendship for Mr. Dickinson. He felt that they owed Mr. Armstrong many thanks for his talk. He then handed the gavel to the new president.

President Carter expressed thanks to Mr. Armstrong and Mr. Dickinson. He looked back 34 years when the Boston paper trade was considering transportation and the unknown facilities of Boston harbor. On the exact date of the meeting this year 34 years ago his father, James Richard Carter, founder of Carter, Rice & Co., and one of the charter members of the Boston Paper Trade Association, was honored by being elected the president of the association.

He said if there were no more questions transportation home would be in order. The meeting then adjourned.

Those present were the following: Allen, Geo. D., Allen, R. W., Allison, R. L., Andrew, George C., Andrew, Sumner B., Armstrong, Edward R., Ball, H. A., Barr, Henry C., Bartlett, Arthur M., Bartlett, Sidney W., Bement, Edward D., Bigley, W. J., Binford, W. W., lackman, Floyd, Blackman, John F., Blake, H. L., Boothby, A. M., Brown, H. S., Burgoyne, Stephen C., Burr, Arthur M.,

(Continued on page 76)

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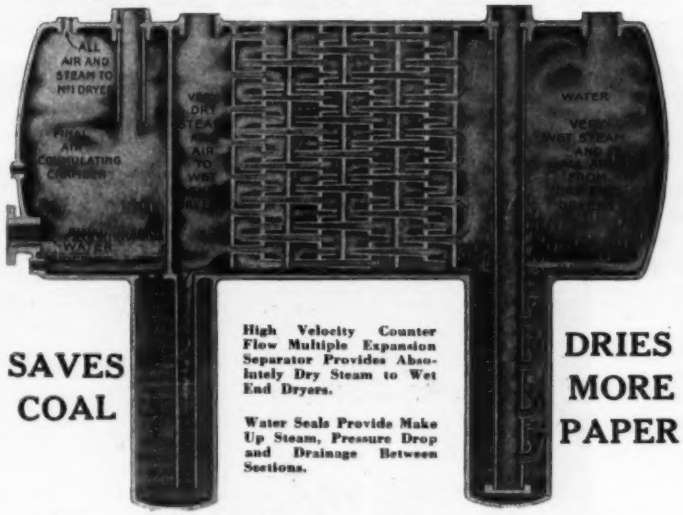
WITH THIS FARNSWORTH DRYING SYSTEM

Norristown Magnesia & Asbestos Co. *Norristown, Pa.*
Bogota Paper Board Co. .....*Bogota, N. J.*
North End Paper Company .....*Fulton, N. Y.*
Lewis, Slocum, LeFevre, Inc. ....*Beaver Falls, N. Y.*
Certain-teed Products Corp. .....*East St. Louis, Ill.*
Certain-teed Products Corp. .....*Marseilles, Ill.*
Certain-teed Products Corp. .....*York, Penna.*
Certain-teed Products Corp. .....*Richmond, Cal.*
S. Austin Bicking Paper Co. ..*Downingtown, Penna.*
Dexter Sulph. Pulp & Paper Co. *Dexter, New York*
Hawley Pulp & Paper Company *Oregon City, Oregon*
Downingtown Paper Company *Downingtown, Penna.*
Grays Harbor Pulp Company *Hoquiam, Washington*
National Paper Products Co. *Port Townsend, Wash.*
Washington Pulp & Paper Co. *Port Angeles, Wash.*
National Roofing Co. .....*York, Penna.*
Gilbert Paper Company .....*Menasha, Wisconsin*

CANADA

Anglo-Canadian Pulp & Paper Co. ..*Limoilou, Que.*
Lake St. John Power & Paper Co. ..*Montreal, Que.*



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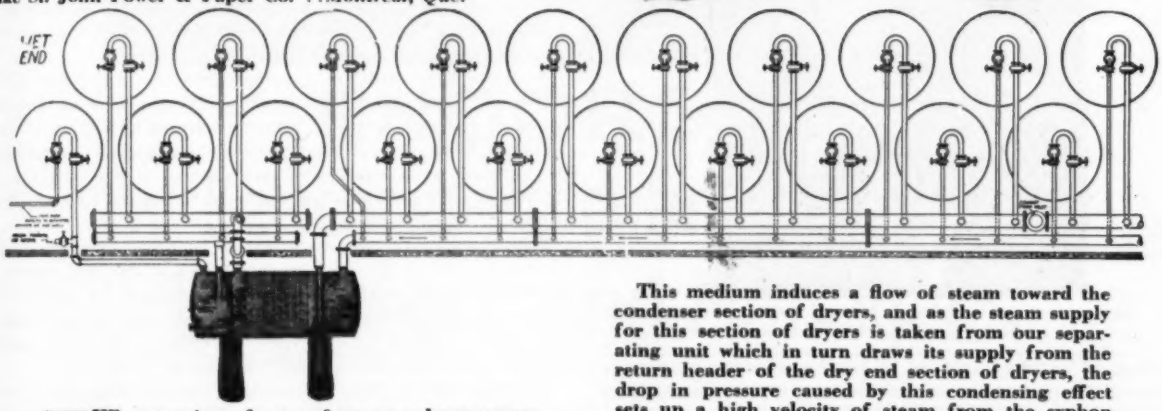
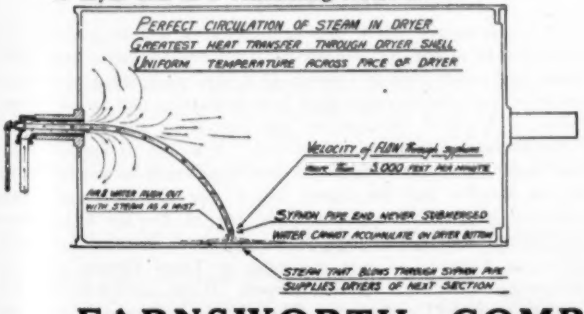
High Velocity Counter Flow Multiple Expansion Separator Provides Absolutely Dry Steam to Wet End Dryers.

Water Seals Provide Make Up Steam, Pressure Drop and Drainage Between Sections.

DRIES MORE PAPER



THE extraction of water from any dryer means that a method must be employed that will lift the water up over the center of the axis of the dryer journal. Only some method of suction or force can be employed. Our system uses both suction and force, meaning by this that we provide a means of reducing the pressure on the return header so that the pressure in the dryer will force the water out of the syphon pipe. The condensing effect of the wet paper passing over the surface of the wet end section of dryer acts as a condensing medium.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SYPHON PIPE END NEVER SUBMERGED
WATER CANNOT ACCUMULATE ON DRYER BOTTOM
STEAM THAT BLOWS THROUGH SYPHON PIPE SUPPLIES DRYERS OF NEXT SECTION

This medium induces a flow of steam toward the condenser section of dryers, and as the steam supply for this section of dryers is taken from our separating unit which in turn draws its supply from the return header of the dry end section of dryers, the drop in pressure caused by this condensing effect sets up a high velocity of steam from the syphon pipes to supply the necessary steam. This great volume of steam at the high velocity passing out of the syphon pipes entrains all water and air with it, and at high velocity, which is described at from five to ten thousand feet per minute, pulls all water out of the dryers even if the syphon pipes are 1½" up from the bottom.

SHOWING action of steam in paper machine dryers when the Farnsworth System is in operation. Showing principally the high circulation of steam in the dryers and how the syphon pipe actually sucks the water up from the surface of the dryers.

The principles involved in this method are obtained by relieving the pressure from the return header. This combined with the effort produced by the steam pressure in the dryer induces a high velocity of steam through the syphon pipes which causes the suction of water up from the surface of the dryers.

The fact that the steam is blown into the dryers and induced in great volumes out of the dryers, insures absolute elimination of any stagnant air and a good thorough distribution of equalized temperatures throughout all surfaces of the dryer.

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Obituary

Paul Fleck

GEORGETOWN, Ont., March 24, 1928.—Paul Fleck, son of L. E. Fleck, president and managing director of the Georgetown Coated Paper Mills, died in Wellesley Hospital Saturday evening of last week as the result of an accident. While descending the stairs in the King Edward Hotel, Toronto, on Saturday afternoon, Mr. Fleck tripped and fell over the banister to the floor below, fracturing his skull, from which he died about two hours later.

Mr. Fleck had been up to visit a friend of his on the fourth floor, and on leaving again he decided to walk down. He was alone at the time of the fatal accident.

Mr. Fleck was a young gentleman, esteemed and respected by all who knew him and his untimely death is deeply mourned. He

PAUL FLECK

was born in Kalamazoo, Mich., 24 years ago and came with his parents to Georgetown when two years old. He was educated in the Georgetown public school and at Upper Canada College in Toronto. On leaving school he became associated with his father and since last September he had acted as the Toronto representative of his father's firm with offices in the Kent Building.

He is survived by his parents and two sisters, Misses Mildred and Marie.

Deceased was an adherent of the Presbyterian Church and the funeral on Tuesday afternoon, which was one of the largest ever held in the community, was conducted by Rev. K. McLean of Knox Church. During the service Mr. Martin, of Hamilton, sang "Beautiful Isle of Somewhere."

The pall-bearers were: Homer Arntz, Cincinnati; Layland Trotter, Eugene Kruger, Montreal; Jack Barber, Ross Cameron, Jack Thompson, Bert Thompson.

The floral tributes from scores of friends were the most beautiful ever seen in town. Friends of the family were present from Montreal, Cincinnati, Michigan, Toronto, Hamilton, London, and surrounding towns and villages.

Waste Material Dealers Banquet Sccessful

The Fifteenth Anniversary Banquet of the National Association of Waste Material Dealers, Inc., was held in the Grand Ballroom of the Hotel Astor in New York on Wednesday evening, March 21. As has been the custom of this association in the past, every item that had anything to do with the success of the banquet had been given careful attention in advance, with the result that the affair was in every way a success.

The secretary and the banquet committee were especially congratulated on the beautiful menus, which carried on the cover the national emblems of 17 different countries, each one of which represented a country in which the association has a substantial number of members, and the Grand Ballroom in its decorations also carried out the same idea. The association's seal in electric lights was another feature of the decorations.

The dinner served by the Hotel Astor was fully up to the high standard which that hotel maintains, and which has had much to do with its success in holding trade associations and other gatherings throughout a long number of years, this association having held its banquets at the Astor each year since 1914, when its first affair was held, with a total attendance of less than a hundred.

Another way in which the Hotel Astor contributed to the success of the banquet was in surprising the organization with a beautiful birthday cake approximately two feet high, bearing the dates 1913-1928, which was borne into the ballroom by four waiters, while the spotlight played upon it as it was carried up and down the ballroom and finally placed on the speakers' table.

President Rady, acting as toastmaster, called the gathering to order, and introduced the first speaker, the Hon. Walter F. George, U. S. Senator from Georgia, who discussed the interest that business men have in government and particularly in the many bureaus which are being built up in Washington. Senator George, who has been endorsed by his State for the Democratic Presidential nomination, won his audience by his able delivery, and his pleasing personality.

President Rady read the following cablegram from Henry Lissberger, who had been elected at the morning session as the new president of the association: "Regret am unable to join in celebration of fifteenth anniversary of the Association. Congratulate the members on the wonderful progress and accomplishments of the past and extend to all my best wishes for the future." Mr. Lissberger is now in Paris.

Following Mr. Lissberger's greetings by cable, President Rady presented to the gathering Theodore Hofeller, the first president of the association. Mr. Hofeller congratulated the association on the progress it has made, and told of some of the early struggles which it had in the days when there was doubt in the minds of many as to whether it could survive.

Following Mr. Hofeller's remarks, President Rady introduced as the last speaker Sir Charles Bartholomew, who entertained the members for some time with his experiences in this country. His address was very humorous and was greatly enjoyed by those present.

The banquet committee in charge of the affair was made up of the following: H. H. Cummings, chairman, Carlton B. Overton, John A. Murphy, Benjamin Friedman and Leo Messinger.

Dryden Receivership To Be Lifted

It is considered likely that arrangements will be made in the near future to lift the receivership from the Dryden Paper Company, Ltd., with mills at Dryden, Ont., and place the enterprise on its own feet. Its revenues have been increasing and at the present time, it is stated, its earnings are over three times interest requirements on notes and debentures. A source of further profit has been opened up through the final conclusion of a contract between Dryden and the Bates Valve Bag Company, of Three Rivers, Que., which will cover the use of Dryden kraft paper for the manufacture of bags over a period of the next five years. The bag company is now operating at Three Rivers, where it makes paper bags for holding cement. It has agreed to establish a plant near the Dryden mill. The contract will provide an outlet for Dryden of 2,000 tons of kraft paper during the first year, the amount increasing as business in the West expands, and the uses of the paper for cement containers and other purposes increase.

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By Leading Pulp and Paper Mill Engineers and Managers

For Most Efficient Heating and Ventilating and the Reduction of Operating Costs

Throughout the entire paper making industry—wherever paper men point to efficient mill construction and operation—Ross Systems predominate. Only an organization specializing in Pulp and Paper Mill work exclusively could attain this position of recognized leadership. Discussing your requirements—large or small—with Ross engineers, puts you under no obligation.

J. O. ROSS ENGINEERING CORPORATION

208 W. Washington Street CHICAGO
Main Office 30 E. 42nd STREET, NEW YORK
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ROSS ENGINEERING OF CANADA, LIMITED
NEW BIRKS BLDG., MONTREAL

New York Trade Jottings

G. F. Steele, news print paper specialist, of 33 West 42nd street, New York, arrived in Rio de Janeiro last Friday on a brief vacation. He is due back in New York on April 10.

* * *

The A. G. Nelson Paper Company, Inc., are now installed in their new offices at 220 West 18th street, New York. Their telephone number is Chelsea, 8090.

* * *

R. S. Kellogg, secretary of the News Print Service Bureau, addressed the Trade Association Executives in New York at their monthly meeting held at the Hotel Astor on Tuesday. The subject of his discourse was "Financing Trade Associations."

* * *

L. A. Deguerre, paper and pulp mill engineer, who recently completed the Tumwater Paper Mills, at Tumwater, Wash., and has accomplished much important work on the Pacific Coast, was a New York visitor early this week.

* * *

Oliver M. Porter has been appointed official secretary of the Supply and Equipment Section of the American Paper and Pulp Association, with headquarters at 18 East 41st street. This organization is the former Supply and Equipment Association, which has become affiliated with the American Paper and Pulp Association, as reported in the preceding issue of this journal.

* * *

The Cleveland Electric Tramrail Division of the Cleveland Crane and Engineering Company, Wickliffe, Ohio, favorably known in the paper industry, announce the appointment of Leeds, Tozzer & Co., Inc., 75 West street, New York, as representatives of their tramrail system in Manhattan, Bronx and Staten Island, New York.

* * *

A meeting of the Paper Stock Division of the National Association of Waste Material Dealers was held at the Hotel Astor, New York, on Tuesday, March 20, the meeting being called to order by David Charak, who later was unanimously re-elected chairman of the division for another year. There being no important matters to come before the meeting there was a discussion which was quite general as to the underlying causes of the very quiet conditions which exist at present in the paper mill supply branch of the industry.

* * *

A meeting of the Waste Paper Division of the National Association of Waste Material Dealers was held at the Hotel Astor, New York, on Tuesday, March 20, the meeting being called to order at noon by Robert Graham, chairman of the division. Members present interested in waste paper discussed ways and means of improving methods of operation and there was a general discussion in reference to present day conditions in various sections of the country so far as they referred to the demand for waste paper. Mr. Graham was re-elected chairman of the division for the fiscal year ending March 24, 1929.

* * *

The Board of Directors and chairmen of the various divisions of the National Association of Waste Material Dealers, presented President Rady during the convention last week with a beautiful gold cigarette case. The presentation took place following an informal dinner held at the Hotel Astor at which were present a large majority of the members of the board as well as a great many chairmen of divisions. At the close of the dinner former President Edmont Frankel in a delightful speech presented the gift, which bore the following inscription: "Presented to G. H. Rady as a token of esteem by the board of directors of the National Association of Waste Material Dealers, Inc., March 20, 1928." President Rady accepted the gift and thanked his associates for remembering him. The occasion was a very pleasant one and was honored by the presence of the association's first president, Theodore Hofeller.

* * *

Charles Addoms, of the Miller and Wright Paper Company, Inc., and F. G. Low, of Green, Low and Dolge, Inc., will present the paper merchants point of view at the "Book Paper" luncheon of the New York Division of the Salesmen's Association of the Paper Industry on Monday, April 2. This luncheon is the second of the series being held by the New York Division at which the merchandising problems of a particular grade of paper are featured. As at the "Writing Paper" luncheon on March 26, at which K. S. Warner represented the merchants' point of view, there will be no set program, but rather a full and free discussion of the problems of distribution of the featured grade. The attendance at the "Writing Paper" luncheon was so good as to tax the capacity of the room at the Canadian Club and a similar attendance is certain at "Book Paper" luncheon, assuring a discussion of widespread interest. Dr. E. O. Merchant will present another of his business charts and discuss briefly its relation to the paper business.

* * *

The Champion Coated Paper Company, of Hamilton, Ohio, announces the appointment of George S. Johnston as manager of their New York office, 2 Lafayette street. Through twenty years of experience as general sales manager of the Western Newspaper Union, operating eleven divisional warehouses selling book and coated papers, he has acquired an exceptional experience in the sale of Champion products which enables him to bring to the New York district every assurance of personal assistance and cooperation. John P. Osborne, who has been with the New York office for several years, will continue his association with the organization in a more comprehensive service.

Waste Material Dealers Annual Meeting

The Fifteenth Annual Meeting of the National Association of Waste Material Dealers, Inc., was held on Wednesday, March 21, at the Hotel Astor, New York, the meeting being called to order by President Rady. The treasurer's report and the auditor's report indicated that the association was in a thoroughly sound financial condition. The secretary's report showed that almost sixty applications from concerns in the United States had been acted upon during the past year, while the membership throughout Europe and the Far East had practically doubled in one year's time, over thirty new applications having been received from foreign concerns. The secretary's report also indicated that the association, through its various departments, had been improving and extending the individual services rendered to members until a point had been reached where the organization and its facilities are becoming indispensable to those who have once taken advantage of them.

After listening to the various reports, which were approved, the meeting proceeded to elect a president, and eighteen directors, fifteen to fill regular two-year terms, and three to fill vacancies. The full ticket as selected by the nominating committee and duly elected was as follows: President, Henry Lissberger; directors, G. H. Bangs, Louis Birkenstein, H. H. Cummings, Geo. B. Doane, Benjamin Friedman, Albert T. Hicks, Robert Johnston, Jr., J. M. Maher, Herman Muehlstein, John Murphy, Nat C. Myers, R. W. Phillips, G. H. Rady, Ivan Reitler, James Rosenberg, W. J. Ross, Philip Senegram and S. C. Weber.

Following the election, President Rady announced that he regretted the absence of the new president, Mr. Lissberger, who is at present in Europe, and a cable was read from the new president greeting the members and regretting his absence.

At the annual meeting of the board of directors which immediately followed the annual meeting of the association, the following officers were unanimously elected: Carlton B. Overton, first vice-president; George Birkenstein, second vice-president; R. W. Phillips, third vice-president, and Chas. M. Haskins, secretary-treasurer.

The Mark of Value
in PRODUCT *and* PRODUCTION

The mark of The Champion Coated Paper Company, of Hamilton, Ohio, is well chosen and well founded, for Champion is a recognized exponent of product-quality and the high standard equipment essential to its maintenance.

Value in paper depends on value in personnel and equipment. It is significant that in the daily production of hundreds of tons of fine paper, Champion uses twenty-six Noble & Wood Jordans, sixteen of which are of the latest improved Precision type, permitting the gauging of stock refinement with micrometer exactness.

Champion is one of many representative mills that are using Noble & Wood equipment to insure high quality paper production, for successful paper makers realize that, regardless of diversity of output, the maintenance of quality demands quality means.

Don't compromise on value. Keep pace with the champions by bringing your equipment to Noble & Wood standards. Our engineers will gladly work with you to this end.

NOBLE & WOOD
MACHINE COMPANY
Hoosick Falls New York

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending December 31, and for the Twelve Months Ending December 31, 1927, as Compared with Corresponding Months of Previous Year

IMPORTS—PAPER

	December				Twelve Months Ending December 31			
	1926		1927		1926		1927	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Paper and manufactures (total)	.....	$12,710,148	.....	$13,271,863	.....	$139,499,144	.....	$149,365,343
Printing paper—								
Standard news print ....lbs...free	340,317,003	11,365,765	360,934,459	11,862,751	3,701,350,149	123,981,715	3,973,724,113	131,488,784
Imported from—								
Finland	7,651,650	226,662	3,632,767	109,676	68,583,218	2,025,980	59,053,098	1,678,152
Germany	753,012	22,668	1,343,412	39,604	25,769,291	766,574	13,986,611	437,868
Norway	2,790,108	75,080	4,840,398	130,126	12,352,543	349,984	33,595,321	909,028
Sweden	4,960,576	141,277	13,196,175	371,246	92,040,283	2,749,177	135,323,951	3,857,801
Canada	285,357,282	9,598,524	310,608,902	10,326,770	3,313,717,595	111,924,211	3,551,504,615	118,731,001
Newfoundland and Labrador	38 804,375	1,301,554	27,184,939	881,294	187,779,654	6,130,740	178.501,964	5,820,991
Other countries	.....	.....	127,866	4,035	1,107,565	35,049	1,758,553	53,943
All other, n. e. s....lbs...dut.	1,478,279	74,854	585,663	26,821	16,376,478	826,512	10,420,368	512,122
Grease-proof and waterproof papers..lbs...dut.	206,965	24,945	138,139	21,095	2,226,951	383,028	1.622,421	262,355
Kraft wrapping paper ....lbs...dut.	842,565	38,030	1,851,222	77,742	8,867,689	390,958	12,197,887	517,951
All other wrapping paper ....lbs...dut.	258,306	17,535	2,922.563	61,508	5,556,310	366,687	12,913,960	336,885
Writing, drawing, bond, etc.....lbs...dut.	321,331	103,325	258,790	67,228	3,761,346	928,336	3,418.833	885,393
Surface coated ....lbs...dut.	137,850	57,440	156,133	72,149	2,067,589	756,145	2,234,701	912,285
Tissue paper ....lbs...dut.	250,388	142,357	345,626	200,589	2,882,185	1,405,192	3,231,208	1,836,277
Pulp boards in rolls....lbs...dut.	3,521,336	82,940	4,914.018	108,396	70,764.659	1,718,425	60,127,790	1,423,111
Other paper boards, n. e. s.....lbs...dut.	.....	99,438	2,243,597	50,714	.....	915,680	.....	827,285
Cigarette paper, cigarette books, and covers ....lbs...dut.	727,194	208,665	894,564	246,504	8,276,285	2,182,583	14,685,107	4,291,637
Hanging paper ....lbs...dut.	442,234	71,777	334,346	76,479	3,529,453	597,436	2,356,424	633,890
Paper boxes ....lbs...dut.	194,513	92,491	242,044	128,793	2,104,225	964,536	2,503,330	1,446,551
Pulp or papier-mâché and manufactures of, n. e. s. ....lbs...dut.	151,179	35,007	164.697	32,012	1,868,393	404,593	1,651,364	338,749
Duplex decalcomania, not printed....lbs...free	115,755	26,320	33,415	7,619	689,544	170,483	701,709	158,586
All other ....dut.	.....	269,259	.....	231,463	.....	3,506,835	.....	3,493,482

WOOD PULP

Mechanically ground wood pulp.....tons..free	20,139	610,558	22,300	556,158	271,213	8,278,220	219,285	5,961,821
Sulphite wood pulp ....tons	100,323	6,572,171	95,201	5,626,981	923,741	60,710,399	924,986	58,487,471
Unbleached ....tons..free	71,631	4,262,127	71,267	3,829,365	628,923	37,032,470	613,856	34,262,845
Bleached ....tons..free	28,692	2,310,044	23,934	1,797,616	294,818	23,677,929	311,130	24.224,626
Imported from—								
Finland	6,884	359,476	9,827	430,934	64,543	3,569,660	74,701	3,781,986
Germany	4,119	301,074	5,771	396,419	80,249	5,490,614	50,828	3,589,647
Norway	6,546	480,769	3,357	217,236	64,029	5,080,313	67.675	5,020,809
Sweden	46,478	2,937,916	41,473	2,404,438	303,548	18.779,809	346,244	20,607,401
Canada	34,054	2,346.055	32,308	2,057,604	378,917	25,792,785	350,910	23,397,895
Other countries	2,242	146,881	2,465	120,350	32,455	1,997,218	34,628	2.089,733
Sulphate wood pulp, unbleached (Kraft pulp) ....tons..free	26,572	1,689,410	41,099	2,283,561	334,803	21,193,459	341,162	20,684,298
Imported from—								
Finland	877	55,899	1,096	44,972	22,193	1,264,028	14,069	718,894
Norway	1,626	107,680	1,056	51,796	10,874	706,442	10,334	576,094
Sweden	13,312	811,170	26,525	1,697,629	158.866	9,720,475	176,444	10,262,487
Canada	10,757	714,661	12,109	774,439	139,877	9,323,049	138,660	9,029,923
Other countries	.....	.....	313	14,725	2,993	179,465	1,655	96,900
Sulphate wood pulp, bleached.....tons..free	2,056	140,642	96	5,990	16,147	1,048.662	10,789	708.712
Other pulp ....tons..free	1.299	76,522	71	7,548	3,857	256,331	3,348	243,968

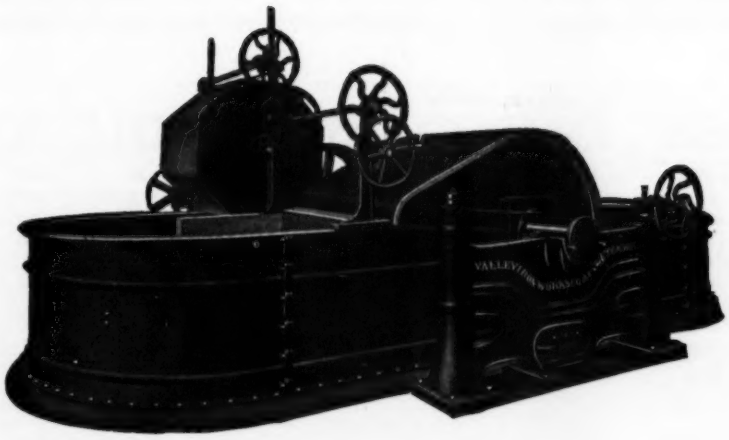
CRUDE PAPER STOCK

Rags for paper stock....lbs...free	38,423,419	809,489	36.289,214	619,645	476.764,483	10,372,689	388,107,988	7,646,864
Waste bagging, waste paper, etc....lbs...free	8,008,261	182,320	11,361,212	139,614	113,322,087	2,394,680	108,709,769	1,428,287
Old rope and all other paper stock....lbs...free	3,302,343	140,747	5.683,385	189,910	79,035,894	3,074,995	65,061,371	1,986,450

CHEMICALS AND OTHER PAPER MAKERS' MATERIALS

Colors, dyes, stains, color acids, and color bases, n. e. s....lbs...dut.	302,535	360,931	357,524	449,771	4,972,949	5,600.655	5,496,833	6,181,795
Imported from—								
Belgium	37,534	52,359	10,653	14,979	236,340	366,594	180,124	242,419
France	7,952	11,394	65,717	72,391	178,181	240,731	234,996	274,154
Germany	95,863	96,854	147,725	164,274	2,179,374	2,323,272	3,238,040	3,426,848
Italy	6.635	6,277	17,046	21,522	92.446	111,183	112,475	130,503
Switzerland	116,097	148,170	103,733	162,047	1,864,891	2,171,317	1,493,466	1,869,124
United Kingdom	34,071	34,803	6,540	6,130	200,912	202,642	146,270	147,640
Other countries	4,383	11,074	6,110	8,428	220,805	184,916	91,462	91,107
Casein or lactarene ....lbs...dut.	1,463,702	168,469	958,871	134,185	26,281,126	2,851.537	24,209,504	3,119,668
Kaolin, china and paper clay.....tons..dut.	28,156	277,463	28.106	271,009	353,746	3,483,550	302,693	2,937,423

(*Continued on page 48*)



Substitute Uniform Efficiency for Faulty Beating

Valley Holland Beaters are doing that for many mills—and with the substitution of uniform efficiency for faulty beating the mills have increased the quality of their paper. Valley Holland Beaters are designed right—only the best materials and highest grade workmanship go to make these beaters.

The special features of design—found in no other equipment for similar use—classify the Valley Holland Beaters by themselves. Economy in operation and great durability are two additional reasons for the wide use of Valley Holland Beaters.

Let us tell you how to eliminate faulty beating with the Valley Holland Beater. Send today for our special booklet.

VALLEY IRON WORKS CO.

Machinery for Paper and Pulp Mills

APPLETON WISCONSIN

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PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(*Continued from page 46*)

EXPORTS—PAPER

	December 1926 Quantity	December 1926 Value	December 1927 Quantity	December 1927 Value	Twelve Months Ending December 31 1926 Quantity	Twelve Months Ending December 31 1926 Value	Twelve Months Ending December 31 1927 Quantity	Twelve Months Ending December 31 1927 Value
Paper and manufactures (total)	.....	$2,328,928	.....	$2,257,253	.....	$26,829,736	.....	$26,975,670
Printing paper—								
News print paper ..... lbs.	1,801,893	78,999	1,070,214	65,095	38,516,147	1,849,238	24,657,313	1,191,033
Exported to—								
Canada ..... lbs.	119,560	8,987	406,174	25,959	1,744,469	121,668	3,373,085	211,805
Central America ..... lbs.	70,686	3,302	85,106	3,942	1,156,347	52,931	805,324	39,803
Mexico ..... lbs.	81,739	3,021	38,972	2,430	1,132,273	56 648	707,998	32,411
Cuba ..... lbs.	380,834	16,312	234,190	13,470	6,807,346	306,078	4,616,006	217,306
South America ..... lbs.	882,149	35,684	254,505	16,076	8,338,257	372,794	5,955,234	263,590
China, Hongkong, and Kwantung .... lbs.	223,682	9,729	14,190	1,488	8,746,457	408,028	396,983	24,621
Japan ..... lbs.	.....	.....	.....	.....	1,903,594	84,837	98,511	6,292
Philippine Islands ..... lbs.	14.029	563	.....	.....	7,099,626	355,422	7,273,679	306,062
Other countries ..... lbs.	29,214	1,401	37,077	1,730	1,587,778	90,832	1,430,484	89,141
Book paper, not coated ..... lbs.	1,749,294	151,470	1,609,337	119,575	18,085,094	1,721,655	16,040,361	1,370,932
Exported to—								
United Kingdom ..... lbs.	3,222	536	5,658	1,105	554,708	78,972	352,721	29,673
Canada ..... lbs.	369,584	28,136	74,173	10,357	4,162,026	352,376	3,648,453	296,823
Central America ..... lbs.	29,920	3,161	26 955	2,263	596,081	65,240	355.572	33,788
Mexico ..... lbs.	46,800	5,371	34,724	4,529	1,446,788	147,327	511,502	55,070
Cuba ..... lbs.	301,441	34,825	399,061	28,432	3,173,570	315,806	2,855,968	240,201
Argentina ..... lbs.	58,559	4,956	117,564	8,457	628,170	53,667	928,095	74,085
Other South America ..... lbs.	141,220	11,937	105,239	8,981	1,709,431	167.142	1,796,121	154,155
China, Hongkong, and Kwantung .... lbs.	31,099	2,465	5,731	276	1,088,563	103,594	391,806	43,503
Philippine Islands ..... lbs.	268,496	20,296	422,294	23,951	1,983,530	165,035	2,215,185	162,893
Australia ..... lbs.	63,400	7,274	115,753	6,850	664,422	73,569	910,118	92,495
Other countries ..... lbs.	435,553	32,513	302,185	24,374	2,077,805	198.927	2,074,824	188,246
Cover paper ..... lbs.	204,364	28,416	116,047	20,776	1,559,723	268,956	1,651,343	283,083
Grease proof and waterproof paper..... lbs.	194,812	27,006	128.949	24,321	2,418.594	354,125	2,613,479	380,647
Wrapping paper ..... lbs.	2,733,563	187,567	3,486,925	213,587	33,015,471	2,234,479	32,312,413	2,256,059
Surface coated paper ..... lbs.	474,839	58,627	408,116	61,600	5,903,248	744,982	5,973,265	768,132
Tissue and crepe paper ..... lbs.	461,337	88,078	614,712	110,470	4,400,260	1,080,131	4,894,615	1,091,531
Toilet paper ..... lbs.	665,149	72,864	588,023	67,282	5,272,355	648,173	5,528,642	668,871
Paper towels and napkins ..... lbs.	157,561	22,511	180,034	29,083	2,029,789	294,544	2,360,487	331,700
Box board ..... lbs.	4,511,228	134,886	2,764,525	83,771	52,468.719	1,502,045	43,633,581	1,351,016
Bristols and bristol board..... lbs.	97,896	11,748	167,002	20,077	1,527,090	173,024	1,844,590	180,136
Other paper board and straw board..... lbs.	3,293,927	194.154	2,430,660	123,597	40,313,367	2,029,696	38,554,831	2,072,702
Sheathing and building paper..... lbs.	905,261	32,262	1,168,717	42,111	11,905,501	505,958	12,756,199	501,056
Wall board of paper or pulp..... sq. ft.	3,120,441	105,997	3,514,864	117,575	25,476,157	879,161	45,890,732	1,506,412
Blotting paper ..... lbs.	267,046	36,850	472,370	51,398	3,175,403	402,679	3,666,789	411,410
Filing folders, index cards, and other office forms ..... lbs.	78,297	24,614	80,048	37,204	808,114	237,338	1,036,011	321,976
Papeteries (fancy writing paper)..... lbs.	90,573	21,893	25,620	8,398	704,880	212,736	705,844	185,951
Other writing paper ..... lbs.	1,203,868	187,278	1,607,681	205,043	10,406,181	1,662,293	13,228,375	1,918,051
Paper hangings (wall paper)..... yds.	1,307,425	29,139	3,032,987	51,010	22,141,719	571,831	29,390,465	606,224
Paper bags ..... lbs.	1,417.504	119,604	854,795	75,293	11,533,883	1,023,728	11,246,849	971,420
Boxes and cartons..... lbs.	1,970,401	146,044	1,778,839	144,890	19,865,560	1,434,995	23,660,747	1,627,954
Envelopes ..... lbs.	200,742	36,996	216,234	38,160	2,682,956	483,532	2,508,919	422,616
Vulcanized fiber sheets, strips, rods, and tubes ..... lbs.	348,843	115,814	366,913	101,727	5,353,522	1,590,023	4,285,038	1,264,366
Manufactures of vulcanized and indurated fiber ..... lbs.	45,493	25,466	435,663	31,472	481,088	164,569	1,004.888	177,859
Cash register and adding machine paper.... lbs.	211.600	21,089	145,368	14,973	2,008,532	205,164	1,943,373	201,009
Other paper and paper products	.....	369,556	.....	398,765	.....	4.554.681	.....	4,913,524

WOOD PULP AND PAPER STOCK

Sulphite wood pulp ..... tons	1,792	112,913	3,023	134,906	20,875	1,345.686	24,252	1,265,859
Soda wood pulp ..... tons	130	8,490	22	1,481	1,601	132,690	2,027	176,507
Other wood pulp ..... tons	45	3,338	150	5,113	8,078	605,848	2,296	91,264
Rags and other paper stock..... lbs.	20,443,986	266,142	19,231,415	408,631	195,019,659	2,765,360	217,774,068	3,393,734

PAPER AND PULP MILL MACHINERY

Paper and pulp mill machinery..... lbs.	2,267,044	477,437	2,234,281	332,308	18,920,544	3,846,109	20,000,140	3,822,893

Receiver for Litchfield Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

FRANKFORT, N. Y., March 26, 1928.—Judge Ernest I. Edgecomb at a special term of Supreme Court appointed George W. Lee receiver for the Litchfield Paper Company, Inc., and an order to this effect has been filed in the Herkimer County Clerk's office. The appointment of a receiver was made in the case of the First Trust and Deposit Company as trustee under the mortgage or deed of trust of the Litchfield Paper Company, Inc., against the Litchfield Paper Company, Inc. and others. Property involved in the action is located here. Appointment of the receiver restrains 52 creditors of the Litchfield Paper Company from instituting proceedings against the company.

Harrisville Paper Co. Expands

[FROM OUR REGULAR CORRESPONDENT]

HARRISVILLE, N. Y., March 26, 1928.—The plant of the Harrisville Paper Company, a subsidiary of the St. Regis Paper Company, which began operations early in the year after acquiring and remodeling the mill of the Diana Paper Company, bankrupt is now running in full with a staff of workers numbering more than 100 men and about one dozen women. All of the machines, which were rebuilt following the purchase of the mill, are being operated at capacity.

A new manufacturing activity will shortly be added to the Harrisville mill with the opening of a department for the production of pads.

Nothing we could say . . .

would be as convincing as this . . .

BEMIS BRO. BAG CO.
BURLAP-COTTON-PAPER BAGS
BURLAP IMPORTERS

PEORIA, ILL., U.S.A.

January 31, 1928.

The Black-Clawson Co.,
Hamilton,
Ohio.

Attention: H. J. Reiter

Gentlemen:

Under separate cover I am sending you a sample of the kraft paper made on the new Fourdrinier.

We started up this machine yesterday without any trouble at all. After making one or two adjustments on the dryers and Sheaban Carriers, we got the paper over the reel and have been running without a break ever since.

I am certainly very much pleased with the Reiter-Randall Fourdrinier.

We are running at a speed of 280 feet with five-sixteenths shake on the breast roll, running at 800 shakes per minute. I expect to get the speed up to 300 feet or over next week, but it will require a pulley change on the variable speed line shaft.

The sample sheet sent you is 40# basis weight and has a Mullen test averaging 42, machine tensile 56, cross tensile 22, and a tear each way of about 80 grams.

We consider the sheet superior for our purposes than the paper we have been buying from two different mills the past year.

Yours very truly,

BEMIS BRO. BAG COMPANY

(Signed) E. B. Roberts.

After all, it isn't what we say about a piece of equipment, but what the customer, who looks to the machine to make money for him, says. That's why we take such pleasure in reproducing the letter above which we received recently from the Bemis Bro. Bag Company.

In another letter, which we received a week later, there is this paragraph; "The machine has been running nicely all week. We now have the speed up to 295 feet. We are making excellent paper for our purpose, and considerably better, in our opinion, than any we have been able to purchase."

Why not let us give *you* the complete facts about this new Champion Fourdrinier, the most revolutionary step in paper making since the development of the first Fourdrinier.

The Black-Clawson Company

Hamilton, Ohio

Established 1875

Export Offices: 15 Park Row, New York City
Builders of highest quality paper and pulp mill machinery
Patentees and sole builders of Vertical Dryers and Champion Fourdriniers

BLACK-CLAWSON

CHAMPION FOURDRINIERS

Built with Machine-Tool Accuracy

PAPER TRADE JOURNAL
ESTABLISHED 1872

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Vol. LXXXVI New York, March 29, 1928 No. 13

NEWS PRINT IN CANADA

The peak of productive capacity as the result of the installation of new mills is now being approached in the news print industry in Canada. The best that can be said of the situation is that it is being regarded with tempered optimism, with strong leanings toward the hope that a revival of business in the United States may prove a beneficent deus ex machina.

Very little is being said to indicate the worrying that is going on, and the state of Vice-President Beauclerk at the annual meeting of the Brompton Pulp and Paper Company has so far evoked no echo. He remarked that production has been cut down, and indicated that that greatly-feared bugbear, price-cutting, had reared its ugly head.

Meanwhile some comfort is being gained from the official figures showing that while production relative to capacity is not improving, the actual production of news print in Canada for the first two months of this year reflected a reasonable increase in tonnage.

This, in conjunction with an almost identical decline in production in the United States, is taken to indicate that the news print industry of the continent is slowly but surely concentrating in Canada.

Discussing the situation, the *Financial Times*, of Montreal, takes a hopeful view. It says: "The time is now arriving when the test of the ability of the manufacturing companies to work out the problem of overproduction will be faced. That the outcome will be more satisfactory than was at one time hoped for is reasonably assured. Indications of a new period of prosperity in the United States have an important bearing in the outlook.

"Reports from the industry indicate that all things considered the situation is working out in a manner which is disposing of apprehension.

"One of Canada's leading bankers expresses the opinion to the *Financial Times* that as the result of the steps which have been taken to adjust output to markets the situation will be worked out satisfactorily."

For investors in the industry, the current market letter of Mathewson, McLennan & Hobson, a well-known firm of stock brokers in Montreal, is also reassuring. It says:

"News print stocks are favorites and recent figures have tended to confirm the bulls that it won't be so very long before a tremendous upward swing commences in these stocks.

"Statement after statement comes out showing no loans, strong working position and good earnings, and this for a year that was distinctly unfavorable. American production is declining and gradually the dominating position is centering in Canada. Consolidations have narrowed control of the situation down to a few men and when they feel the time is ripe they will increase prices. Then watch the news print stocks."

200 YEARS OF PAPER MAKING

Because of the extent and the value of the paper making industry in New England the *New York Sun* says editorially that the thousands of paper makers in that section can with considerable satisfaction this year observe the two hundredth anniversary of the act of the General Court of Massachusetts Bay Colony giving five men "the sole privilege of making paper in the province for ten years." Through that act the first New England paper mill came into existence at Milton, almost forty years after the establishment of the first paper mill in America at Germantown. In the *Boston Transcript* Carl G. Fowler recently sketched the beginnings of the industry in New England.

Though not the first in years, the Milton mill was the first to excite British anxieties, then easily aroused by signs of any industrial development in the colonies. In 1731 the House of Commons directed the Board of Trade to report on trade and manufacture in the colonies "detrimental to the trade, navigations or manufactures of Great Britain." That report cited the act of the Massachusetts General Court as a law interfering with the profit of British merchants and paper makers. Later penalties were placed on the exportation of articles used in the manufacture of cotton, linen, woolen and silk, but the struggling paper industry did not excite that degree of alarm. But as the prohibitions failed of their purpose with respect to the other industries it may be taken for granted that similar prohibitions would have had no effect upon the Milton mill or upon the paper-making industry.

Three companies in operation today are linked, somewhat tenuously, with that first mill at Milton—the Tileston & Hollingsworth Company and the Hollingsworth & Vose Company in Massachusetts and the Hollingsworth and Whitney Company in Maine. Jeremiah Smith took charge of the Milton mill in 1737. His grandson, Jeremiah Smith Boies, in 1801 leased a paper mill on the Neponset below Mattapan to Mark Hollingsworth. Thus Hollingsworth, whose descendants are still actively interested in the industry, became the connecting link between 1728 and 1928.

MAMMOTH DEVELOPMENT IN CASCADES

A ground wood mill of possibly 250 tons capacity, for the manufacture of news print, is now rumored as to be a development of the very near future in Washington. This will inaugurate the entering of the immense pulp timber areas of the Cascade Mountains, where possibly the finest stands of hemlock and silver fir in the entire Northwest are to be found.

The reported development is on the south fork of the Stillaguamish River, east of the town of Granite Falls. The main body

of timber lies in the Snoqualmie National Forest and aggregates about seven billion feet, most of which is western hemlock and amabilis fir. Some of the logging is costly, but the entire length of the Stillaguamish watershed is served by railroad, the Hartford & Eastern, which operates as a common carrier from Hartford to Monte Cristo.

The railroad and properties which form the "key" to this project are known as the Rucker Bros. interests. It is understood that these interests have been, or are to be acquired by a syndicate of fourteen newspapers, supposedly on the Coast and mid-West and that they propose to erect a mill of the stated capacity for the production of the news print used by them.

The Stillaguamish South Fork contains many ideal power sites, one of which is owned by a large local public utility concern. It is quite possible to develop 50,000 horsepower along this stream.

This will be the first attempt at getting back from tidewater; but, it is brought out, almost all of the product will be shipped by rail to the consumer in this event.

Import Committee Is Busy

Importation of fruit wrapping tissue paper wrongly classified as wrapping paper has been corrected, according to a report by the Import Committee of the American Paper Industry to its subscribers. The paper is now being held dutiable at a higher rate as tissue paper.

Undervaluation of Finnish book paper in the South has been disclosed through investigations by the Import Committee.

Importers of vegetable parchment paper in Florida have failed in an effort to have that paper classified for duty as wrapping paper, and the higher rate provided for greaseproof paper is now being paid.

Improper classification or valuation of several types of paper imported through New York has been corrected by the Customs Service officials. These include holiday paper tapes, crepe paper napkins, sensitized photographic paper and oiled sketching paper.

Eastwood Wire Mfg. Co. Gets New Capital

George E. Edmunds, when interviewed in reference to the sale of the Eastwood Wire Manufacturing Company of Belleville, N. J., which appeared in several of the morning newspapers, stated that the newspaper reports were not in all respects correct.

A group headed by himself and Colonel Edward C. Carrington has taken a financial interest in the company for the purposes of expanding the metals and other ends of the business. The wire operation, the main feature of the company, is to continue as heretofore.

Calvin H. Nealley retains a substantial interest in the company and will continue with it as heretofore acting as Chairman of the Board and giving his entire time to the wire end of the business. New capital will be brought into the business to cover extensive plans that are now in contemplation.

Adirondack Bag Co. Incorporates

The Adirondack Bag and Paper Company, Inc., of New York City, has leased from Cushing Brothers a three story concrete building on Delaware avenue, East Side, Cohoes, and has a force of men now at work preparing the quarters for use as a paper bag factory. The company expects to begin operations about April 1 or shortly after. The plant will be equipped with modern machinery for making all classes of paper bags.

The structure to be occupied is practically new, having been erected only a few years and is situated adjacent to the West Shore branch of the D. & H. Railroad with a spur track to the plant. The Adirondack Corporation has leased the building for a term of years, the lease containing an agreement by the owners to make whatever additions become necessary.

Taggart Bros. Co. Elect Officers

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., March 26, 1928.—The annual meeting of the board of directors of Taggart Brothers Company, of Watertown, was held in New York Tuesday of last week at which time Floyd L. Carlisle was elected chairman of the board and B. B. Taggart, president. Other officers elected were vice presidents J. W. Taggart, H. E. Machold, and R. B. Maltby; secretary-treasurer J. J. Amos; assistant secretaries, Clyde Miller and Ambrose Plunkett; assistant treasurers, F. A. Rogers and Carl B. Martin.

The new board of directors is composed of Jacob Amos, R. H. Amos, D. M. Anderson, Ambrose Plunkett, Byron B. Taggart, J. W. Taggart, F. F. Carlisle, R. K. Ferguson, H. E. Machold, R. B. Maltby, D. A. Fleischman, Corwin T. Jewell, Thomas N. Royal, and C. P. Schoellkoepf.

A number of important changes in the organization were announced following the meeting all tending towards a community of interests between the Taggart Brothers Company and the St. Regis Paper Company, D. A. Fleischman, of Oswego, superintendent of the bag department of the Taggart-Oswego Bag and Paper Corporation, was added to the directorate of Taggart Brothers Company, Inc. After the meeting announcement was made of Mr. Fleischman's designation as general superintendent of the bag department of Taggart bag mills in Watertown, Herring and Oswego, with headquarters in Oswego. He went to Oswego as superintendent of the new Taggart mill several months ago.

At the same time it was stated that to the duties of Corwin T. Jewell, general manager of the St. Regis Paper Company, will be added general supervision of the papermaking department of the new Taggart-Oswego Paper and Bag Corporation. Mr. Jewell will now have charge of the papermaking departments of all the St. Regis company properties in connection with other duties as general manager.

It was further stated the experience and services of the St. Regis Paper Company officials will be utilized in operation of the new Taggart-Oswego mill. Mr. Jewell is understood to be perfecting an operating organization for the Oswego plant covering paper manufacturing operations which will be announced soon.

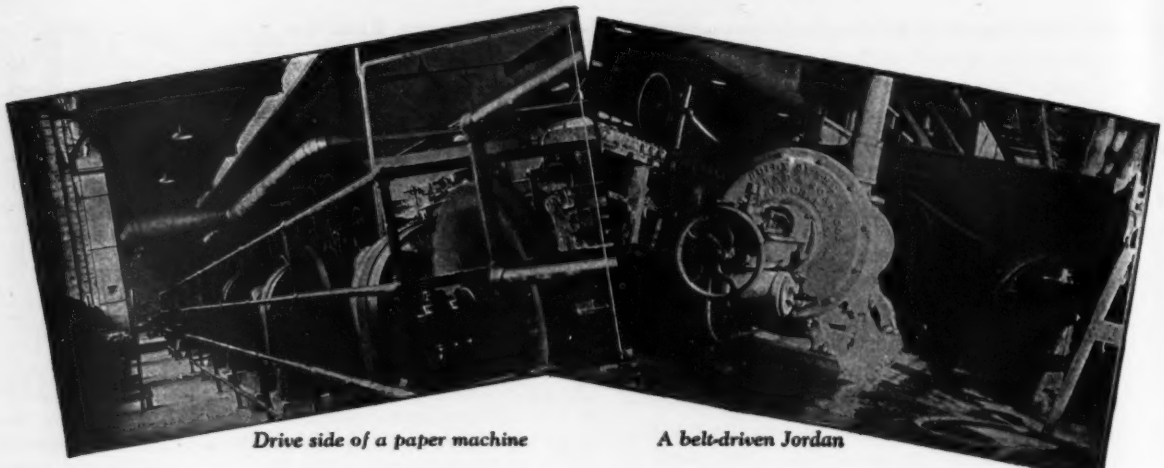
The statement is made that no officers of the Taggart-Oswego Paper and Bag Corporation will be elected until next fall as the corporation was not perfected until early last summer. Stockholders of the St. Regis Paper Company, closely allied with all Carlisle enterprises, are stockholders of the new Oswego bag plant, it is understood, and the Oswego plant will now come into the St. Regis group. For some time business activities of the St. Regis and Taggart companies have displayed a considerable affinity. Mr. Taggart has been active in Carlisle properties and Mr. Carlisle likewise in Taggart operations in Northern New York.

The St. Regis Paper Company with a daily production of upwards of five hundred tons of newsprint and various other grades of paper has mills at Deferiet, Black River, Norfolk, Norwood and Raymondsville. It also has several subsidiaries including the Champion Paper Company, of Carthage, and the Oswego Board Corporation formed last July to manufacture at a plant nearing completion in Oswego a building board from the waste pulp material of St. Regis mills.

About three years ago the St. Regis Company sold its mill at Herrings to Taggart Brothers Inc., of Watertown, which has been converted into a manila bag mill similar to the one in Watertown. The Taggart companies are engaged in the manufacture of genuine manila bag paper which they manufacture into bags for cement.

Columbia River Mills Ship Pulp East

PORTLAND, Ore., March 23, 1928.—The Columbia River Paper Mills, Vancouver, Wash., shipped 250 tons of pulp to Boston March 11, by the American-Hawaiian line steamship American. The boat also carried 2000 bales for New York. This was the first pulp shipment to the Atlantic coast this year from these mills.



Drive side of a paper machine *A belt-driven Jordan*

For ALL Paper Mill Drives *The* Belt is "1788 Highflex"!

Send for bulletin 9700: a manual for paper makers on paper mill rolls.

COMBINING maximum strength with minimum thickness, "1788 Highflex" will carry loads over relatively small pulleys.

The friction rubber in this wonderful belt has all the "nerve" and snap of the finest plantation rubber, combined with certain ingredients which enable it to retain this life and elasticity in spite of age and heat. Its elastic quality gives extreme flexibility and pulley-grip.

All excess stretch is removed in manufacture, thus preventing frequent take-ups. The compact, dense weave of the duck gives a strong anchorage for hooks and lacings.

There are no seams on either side. The Foldless Edge prevents bootlegging; insures great flexibility, perfectly straight running and uniform strength.

Try "1788 Highflex" on your hardest drives!

THE B. F. GOODRICH RUBBER COMPANY
Established 1870 Akron, Ohio

Goodrich
"1788 Highflex" Belt

Section of the
Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Edited by
RONALD G. MACDONALD, Secretary

Moving Materials at Minimum Cost in Paper and Pulp Mills

Contributed to TAPPI by The Society of Electrical Development

Operations

Chemicals: from car to storage to size makers, to bleach department, to coating department

WET LAPS:
from wet machines to beaters or storage or cars
from cars to storage or to beaters

DRY LAPS:
from machine to storage or cars
from cars to storage or to beaters or shredders

Baled Fiber or Old Paper: from cars to storage or beaters

Broke: from dry end of machine to shredder chute or to beaters

Machinery and Mill Wright Supplies: between storage and point of use

ROLLS OR FLAT STOCK:
from machines to storage or to calenders—news print to header
from storage or calenders to platers, cutters, counters, packers

Rolls: to plying machines, to cutters, to embossers, to cutters, to counters, to storage, direct to or from cars

Flat Stock: direct to cars

Coal: from storage to stoker hoppers

Ashes: from boiler grates to dump or outbound carrier

Flat Stock: from storage to printing machines, to sorters, to packers and to box makers or to shipping

Transportation of paper and allied materials within and between departments deserves especially thoughtful consideration at a time when the cost of doing this work by the methods that have been used in the past is becoming exceedingly expensive. The pulp and paper manufacturer's dollar now purchases only 44 per cent of the labor that it did in 1914—as applied to handling materials by the old manual methods this means that the cost of doing this work has more than doubled in this period. The increased consumption of paper—now approximately 50 pounds per capita per year—means that tremendous tonnages of this commodity must be handled dozens of times between beater and waste basket.

While no figure is available to indicate exactly what proportion of payroll outlay is required in the paper and pulp industry to cover the cost of materials handling, a recent survey conducted by the A. C. Nielsen Co. brought out that the average for all industry amounts to 21 per cent of payroll. It has been estimated that complete mechanization of materials handling operations would lower this figure by half. With a present wage outlay in this industry in excess of $150,000,000, the total saving at stake through the introduction of modern equipment and methods is lucrative—the more so at a time when most process operations are very highly developed, thus cutting down on the sources for achieving immediate economies.

An ideal manner of presenting the actual possibilities in this field, from the equipment point of view, would include a discussion of apparatus for hoisting, package handling, loose material conveying and elevating, general hoisting, trackless transportation, industrial rail transportation, special coast storage and handling. Unfortunately the data for such a presentation are lacking.

In the absence of the facts on the relative performance of these various types of equipment, it is enlightening to consider what a single type is actually accomplishing on representative jobs that are commonly met in the industry. If those types above mentioned are classified, they may be seen to fall into one of two categories—either fixed or mobile. Functional differentiation indicates that each machine is designed either for vertical movement, horizontal movement or a combined horizontal and vertical movement of material.

The electric industrial truck is mobile, always provides flexible horizontal movement, and in the tiering modifications provides vertical handling to heights of 10 feet. Only a substantial floor is required for satisfactory operation. Its range of utility is perhaps greater in plants designed twenty or thirty years ago than in modern plants for the reason that in building at the present the importance of materials handling facilities is appreciated and wherever possible, fixed equipment is installed at the start. There still remain many operations, however, especially in the nature of variable flow between varying points, common to all plants, for which the electric truck is especially well fitted. In general, wherever material is moved on wheels by hand, the power truck, in one of its several modifications, provides a means of lowering the cost of the operation.

Older plants have to compete with new ones. Often layout adequate for the use of the same handling equipment is not available—and under such conditions a compromise is necessary. For such plants it is much better to apply power as efficiently as possible than to continue to use brawn. It has well been said that

the American motor always provides a cheaper means for getting the job done than does the Chinese coolie.

A concrete instance of this point is provided in the practice of a Maine mill in handling logs to grinders. Two high lift trucks proved better fitted for the job of moving logs from pond to a battery of 8 machines—a distance of 150 to 250 feet—than an industrial railway that had been used previously. At present a Canadian mill employs a fleet of low lift trucks for the same purpose.

Formerly, it was necessary to unload each car as it was brought in and then to handle the wood again as fed to the grinders. With the present system, rehandling is altogether eliminated by placing skid loads of about 3,500 pounds directly on the grinder platforms. Actually only one electric has to be operated at a time to keep the 8-pocket grinders supplied.

Several mills consider it feasible to move broke boxes with an elevating platform truck and when this operation simply constitutes a part of the machine's routine, it is undoubtedly an economical way of conducting the handling, especially where the broke has to travel a considerable distance to be returned to process. Both of these applications work out to greater advantage than doing the same work manually but in a modern mill, the fact remains that a beater for converting broke to slush is usually located under the dry end of the machines and the logs are floated directly into the grinder room.

Variety of Materials Is Wide

The materials that are readily handled by electric truck include bagged material, baled stock, wet laps, paper in rolls and in flat packages, box shooks, machinery and mill supplies, and in some cases such bulk materials as coal, ashes and stone. Depending upon the type of service, one of five major modifications of the truck is usually employed—the straight platform general utility truck, and low lift truck that carries its load on platform skids;

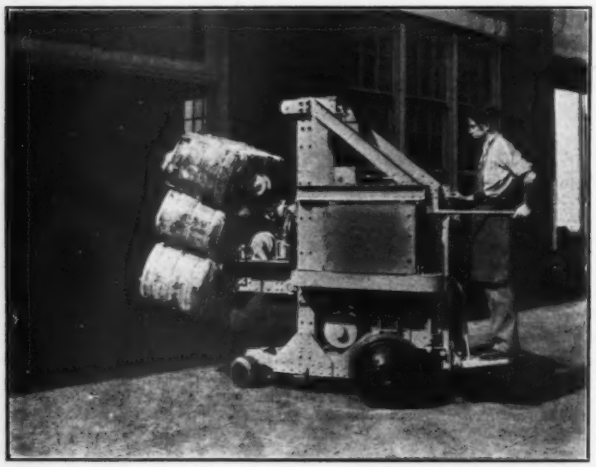


FIG. 1

Handling baled fiber or other raw materials, this type of specially designed truck meets a specific need in the paper industry. In 8 hour service it is able to do as much work as 5 hand truckers—in longer service per day the saving that it makes is proportionally greater.

the tiering truck, similar to the low lift except for the fact that it carries its load up to heights of 4 to 10 feet; the crane truck and the tractor.

Any one of these machines can be installed and operated at a total fixed charge, exclusive of the time of the operator that does not exceed $3.50 per 8-hour day. Against this fixed charge—amounting as can be seen to approximately the wage of a single laborer—a saving of from $3,000 to $15,000, is ordinarily made. This means that for each truck placed in service, from 2 to 10 men can be released for other work. The basis for these statements lies in the practice of 12 American plants that employ the equipment—equipment representative of every make now on the market. It is a conspicuous fact that in Canadian mills where American equipment carries a duty of 33 per cent a most complete electrification for trucking, using the lift and roll handling industrial, is found.

Wall Board Handling Practice

A leading wall board manufacturing plant where paper is converted from rolls to laminated sheets for marketing, uses 6 trucks

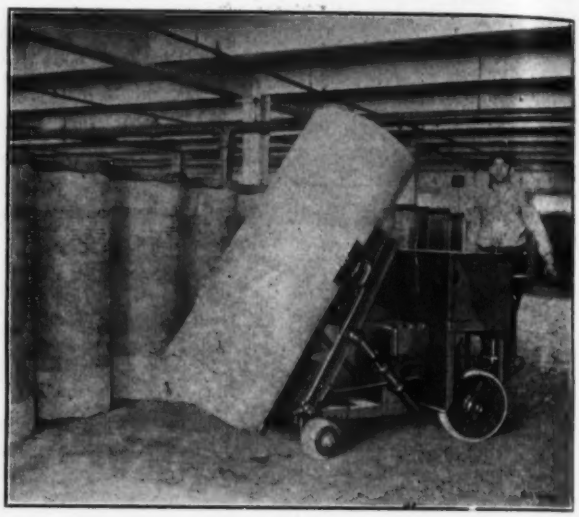


FIG. 2

A roll of news print is unwieldy, heavy and dangerous from the point of manual handling. Activity in meeting the need for a unit capable of all the handling necessary, from paper machine to railroad car, has resulted in several special trucks. Canadian mills have adopted these "roll handlers" faster than plants in the United States!

of the elevating platform type. The daily cost of operating these trucks, aside from the driver's time, interest and depreciation, is $0.78. This figure accurately represents the items of power and maintenance.

From 1919 to 1924, 4 trucks were operated 24 hours a day—thus indicating 15 years as the life of such equipment is usually determined. These units are still performing satisfactorily so the life obtained up to the present is approximately 18 years.

The work of the trucks begins at the cars where inbound shipments of paper are received. A beam is placed across the top of the car and on each end a chain hoist is attached. The rolls are lifted by fastening the lifting gear to the mandrels, then the extra long platform of the truck is run under and when sufficient clearance has been obtained, the roll is dropped, blocked and carried on the electric either directly to the laminating machine or to storage—a distance of from 50 to 200 feet. The rolls weigh from 3,000 to 4,000 pounds. In a day a single truck with driver and helper can unload 90 tons. When this is delivered to storage, an overhead crane is used for piling and when stock is running from storage to laminators, the trucks are loaded with this crane.

From laminating, the stock is moved either to the sizing department or to machines for special impress. In either case the distance is about 175 feet. The handling is made on 4-wheel trucks that were formerly pushed by hand. The interesting feature in the present method is that a truck, assigned to the job, pushes these loaded trucks with power without making any direct hitch or without lifting. The electric, with its platform lower than the trailer on which the load rests permits the load to project over it and to swing on turns.

After sizing or impress the board is placed on wooden skids that are extra long for movement to sorting and bundling departments. This haul covers approximately 125 feet. The final handling is to the shipping department—again in a distance of 200

feet. For these operations two trucks are in use. The average tonnage handled through the plant runs about 35 tons a day and much of the haulage is up a 5 per cent ramp.

Another plant making roofing products has been very successful in using the electric. The product made at the mill where these trucks are used—there are 8 in the fleet—is finished on the floor below the shipping level. A large amount of it is stored in a warehouse connected by a 150-foot ramp to the shipping platform with a 6 per cent upgrade that has to be traveled by the trucks carrying shingles to storage.

The electrics conduct three jobs. Coating machines are supplied with heavy rolls of stock, the finished product is carried from the cutting machines to storage and thence back to railroad cars for shipment. A better idea of the performance of a single truck may be gained from the fact that in a trial test in 9 hours and 40 minutes, 69 trips were made from the lower level, 300 feet, up one flight by elevator, then 300 feet by the ramp, previously described, to storage, carrying an average load of 4,500 pounds.

Most of the work done is by daily assignment. Usually 2 trucks are in service in the plant proper and 4 are used for loading. To carry on the latter operation, a 7-man gang has been found most effective—consisting of 2 trucks with drivers—with 3 men in the car and 2 in the stock house. Formerly 5-man gangs were used; one truck with 2 men in the storehouse and 2 in the car. So much idle time resulted because of the length of the necessary run with the truck that it was decided to increase the speed of handling by adding one additional truck, with one more man in the car to help unloading the shingles from the skids and piling. It is interesting to note that the installation of trucks did not lessen the number of men on the payroll but that five men with one power truck loaded 415 tons per week with a fraction of the effort that had previously been required to store away 265 tons using 2 hand trucks with 2 men to a truck. In other words, the installation of the electric industrials was part of the provision made for increasing production without adding to the number of necessary workers.

It is significant that the men like the power trucks and take pride in keeping them in good running trim. Every Saturday afternoon they go over their machines, each man cleaning and lubricating his own truck. A mechanic works with the men at this time making a careful inspection of the equipment and repairing any trucks in the slightest need of such attention.

Overhead on the six trucks, including repairs, maintenance, power, depreciation and interest, runs about $300 per month, or $50 per machine. This works out to an operating cost of approximately 40 cents per hour. For this outlay the capacity of each of the truckers has been increased from 55 to 83 tons per week. In one day the loading gang handled a 26-car train, each car averaging 20 tons.

Other plants might be mentioned that use trucks in the same general manner as do these concerns. There is little point in repetition, however, other than to state that beyond the direct saving in labor that is effected, congestion about elevators is invariably decreased, effective storage area is increased and the safety of workers is made more secure. Despite its speed, the electric is definitely under control at all times and in an emergency can stop within its own length.

Skid Shipment of Paper

The paper industry originated the idea of shipping on skids. At the present there is no longer anything novel in this practice, yet there are many concerns which might employ this method to advantage that still load in the old way. Evidence of this point comes most forcibly through a consideration of the potential savings involved.

A lithograph concern that is a large user of coated stock now receives all of its paper in this form. Where it formerly required the service of 9 or 10 men for half a day to unload a carload of paper, two men using a high lift electric that runs directly into the car, now do the job in 30 minutes. The management of this concern is so well satisfied that it is negotiating with its own customers for shipping everything from gum wrappers to can labels on skids.

The skids are of the destructible type, knocked together from old lumber, and destroyed as soon as they break. For perhaps 4 or 5 trips they are good enough to be returned to the mill. The actual skid cost is almost negligible as compared with a saving in loading cost of from 20 to 50 per cent. Perhaps there is no better proof of the logic of this practice than that practically all of the pulp entering the city of Holyoke now comes in on skids.

Of course it may be held that the skid idea is entirely sound, whereas the use of a power truck is not justified. In a few instances this is undoubtedly the case but in general, where hand lift trucks are used for handling a considerable volume of material, it pays to use the electric on long hauls. The ideal combination is to have hand lift trucks located for short shifts, and to let the power truck make the longer transfers. With a capacity of two tons at a speed of from 4 to 6 miles, the electric kept reasonably busy handling skids, readily enables one man to increase his capacity 5 to 8 times.

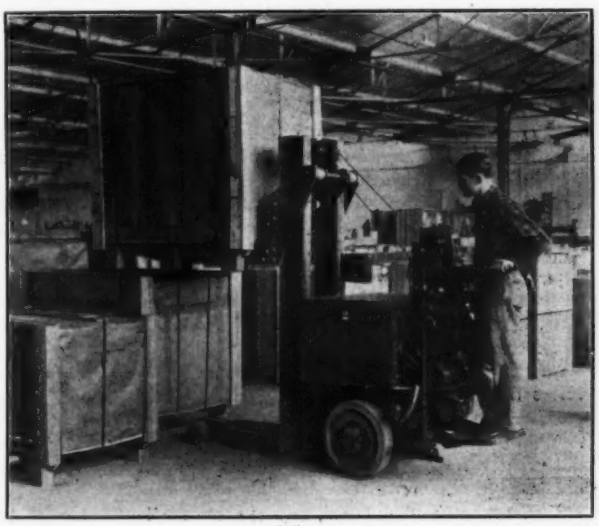


FIG. 3

Skid shipment of paper represents a significant trend in industry. Labor involved both in loading and in unloading is cut down, frequently by 50 per cent. Use of the storage battery lift and tiering truck has played an important part in this development. It makes possible direct spotting of the load in the car and also its removal at destination.

Several concerns make extensive use of this combination. In fact it seems that most concerns that discover the merits of the hand lift truck are led, as the next step, to the power lift as a means for effecting further cuts. Both of the concerns mentioned specifically happen to manufacture box board and cartons. At a Wisconsin plant about 200 tons of paper are made, laminated, printed and cut, folded, boxed and shipped in a day. Three electrics of the high lift type are used on the two floors occupied by the laminating machines and the other process equipment used for the operations enumerated. The practice of using these machines for handling between operations is followed especially for hauls between process steps that are conducted some distance apart. Each of the power trucks is estimated to save approximately the time of 5 men.

Another plant uses hand trucks for short hauls, averaging to move 500 pounds at a trip in this way as against an average of from 3,000 to 3,500 pounds when the electrics are used. The oldest of the six units in use at this plant has served 11 years and, according to the master mechanic, is certain to be good for 6 more.

Floors are rough and runways are narrow, but despite these drawbacks the very satisfactory savings are reported.

Paper in rolls continues to present a difficult handling problem—especially from storage to car where overhead crane or tram rail equipment cannot be used effectively. The standard lift trucks, both high and low, are of direct use in some plants and the method described in connection with wall board has other applications. In addition several special roll handling trucks are working out successfully. Perhaps the most interesting trucks of the last type are those recently put into service by a Pennsylvania company—an installation that is ingenious and full of promise.

Two trucks, each of two tons rated capacity, and with a uniform lifting range of 122 inches are used. Each is equipped with a swivel bearing on its platform and the controllers are so arranged that the lifting mechanism can only be operated when the trucks are in low speed or at rest.

Working in tandem these trucks carry rolls weighing up to 5 tons, 110 inches long, with a diameter up to 56 inches. The operations include carrying these rolls from machine to storage and back to process in the same building. Two men constitute the entire handling crew and the total cost of the equipment itself runs approximately $6 per day.

More storage space was felt to be imperative—a separate building was expensive, and to install an overhead crane in the present building—which involved raising the roof, strengthening the walls as well as purchasing the equipment—involved an outlay of $35,000. The purchase of these trucks, at a fraction of that expenditure, has provided a solution not only eliminating the necessity for tying up this amount of capital but also cutting down very greatly on the amount of labor required to handle the rolls. Tiering two rolls high, or three if need be, is readily possible with the present equipment.

Another roll handling job, conducted by an Ohio company, involves the use of an electric truck employing the principle of an ordinary hand truck. This machine picks up a roll of from 1,500 to 2,000 pounds, either from end or side position, tips it into an end position for carrying so that a single operator can do the entire job. In addition to carrying, this truck also tiers its load.

Forhandling baled material, any one of the lift trucks can be used to advantage. Many concerns use the fork or chisel lift truck for this service. One concern that has to transport cordage put straight platform trucks into service nearly 13 years ago for this operation—a haul of 900 feet from dock of warehouse up a 1½ per cent grade. The average load consisted of bales, weighing 3,200 pounds. A trial demonstrated that nine men could be released by a single machine. Because of the economy realized, a fleet of 14 trucks of similar design has been built up for this service. If the wages of a stevedore are reckoned at $1,500 a year, the annual saving amounts to $189,000. During 1924, on this haul, freight was transferred by these trucks at an average cost of 40 cents per ton, including all labor and truck charges.

Another paper company handles bales of pulp from storage to beaters by using a straight platform truck along with trailers for which the load carrier acts also as a tractor. In this operation, which has been conducted since 1914, a saving of 14 men has been realized. This same company, by the way, uses an elevating platform truck with skids in the finishing plant and for shipping, thereby saving 7 workers.

In the service of the millwright gang, the crane truck is especially useful. One concern that has enough work to keep such a machine going steadily states it has decreased the number of men required for dangerous maintenance by 35. Undoubtedly this figure is higher than could be expected in the majority of plants but where a considerable amount of heavy handling of apparatus has to be conducted throughout the mill, this type of machine is very well fitted.

Another application of the portable crane truck that has been successful is in supplementing the service rendered by overhead handling equipment when production rises to the point where greater capacity is necessary.

Numerous odd jobs fall to the lot of the electric industrial. Cars are spotted in the absence of a switcher by using the truck as a locomotive; a concern that placed tanks for hauling oil and lubricants to all parts of the plant saved 60 man hours a day by the expedient; dump bodies used for handling waste increase the wheelbarrow pushers capacity by ten times; a Michigan company solved its ash handling problem by putting an electric tractor on flange wheels and moving cars from below the grates to an ash dump; another company that formerly kept a man busy 9 hours a day handling starch from storage to mixing department, now moves the entire supply in one or two trips with the power truck that hauls most of the load on a trailer.

Finally, to summarize, the electric industrial is a flexible unit, capable of performing advantageously in by far the larger number of operations dependent upon moving material on wheels. It tends to conserve space, thereby decreasing congestion; it increases general efficiency by insuring that the flow of material will be adequate to process needs; it very definitely decreases labor turnover by taking the backache out of heavy handling; it saves from $3,000 to $10,000 a year—or more—and last but not least it gives workers time, opportunity, and incentive to think—always conducive to better operation. As the Waste Committee of the Technical Association of the Pulp and Paper Industry has pointed out:

"A marked advance in the mechanical handling of materials has been made in the past ten years. This mechanical development will doubtless continue not only because of the reduction in costs and the lessening of labor, but also to eliminate the wasteful use of human energy where it is possible to do the same work as economically by mechanical means. Human energy, in the last analysis, expresses itself in thinking and it is unintelligent to put it to use where its accomplishments are mainly measured in foot pounds."

Sulphite Production Variables

SPECIAL INQUIRY No. 100

A member writes: "We believe that it is commonly admitted that sulphite pulp cooks vary considerably even when they are made under uniform conditions, but we have never seen any figures for bleach requirements or the results of strength tests which would show just how great the variations between cooks are. We should like to have an inquiry started along this line so that we may know whether our results are as good as can be reasonably expected. We believe that mills which have not looked into this question will find some rather startling results if they will investigate."

Answers to this inquiry should include the following:

1. Do you apply a test for strength, bleachability, or other quality to individual cooks?
2. Indicate tests applied and describe fully the methods that are used.
3. Indicate by record of a series of tests covering seven days at least, on successive digester cooks, how uniform the pulp is with respect to strength, bleach requirement and other properties.

This inquiry will be handled in the usual manner and all who contribute information will receive a copy of the special report when issued. Send answers to

G. G. MACDONALD, Secretary, TAPPI,
18 East 41st Street, New York.

May Establish Pulp Mill in Oregon

PORTLAND, Ore., March 23, 1928.—Ed Ulger, said to be representing a large corporation of Bemidji, Minn., is reported to be making a survey of Estacada district in Oregon, with plans in mind for the establishment of a wood pulp mill. A site at Cazadero is under consideration.

Increasing The Capacity of The Elmendorf Tearing Tester*

By F. T. Carson,[1] and L. W. Snyder[2]

I. Introduction

The Elmendorf tearing tester is used rather extensively for testing the tearing resistance of paper and, despite some uncertainty about the interpretation of the results, is currently acclaimed as the most suitable device available for the purpose. It is sometimes desirable, however, to test the tearing resistance of heavier materials than this tester was designed to accommodate. In a recent investigation it was desired to test the tearing resistance of various kinds of roofing felts and it became necessary to devise some means of carrying out the tearing test, since it was found that the materials were too heavy and strong to give adequate and consistent readings on the Elmendorf tearing tester.

It was apparent that the capacity of the tester could be increased by merely increasing the weight of the pendulum. In making such an alteration it was desirable to design the heavy-duty tearing tester so as to make the present scale graduations usable without complicated conversion formulas or tables. It was also desired to make the tester quickly convertible from the heavy-duty

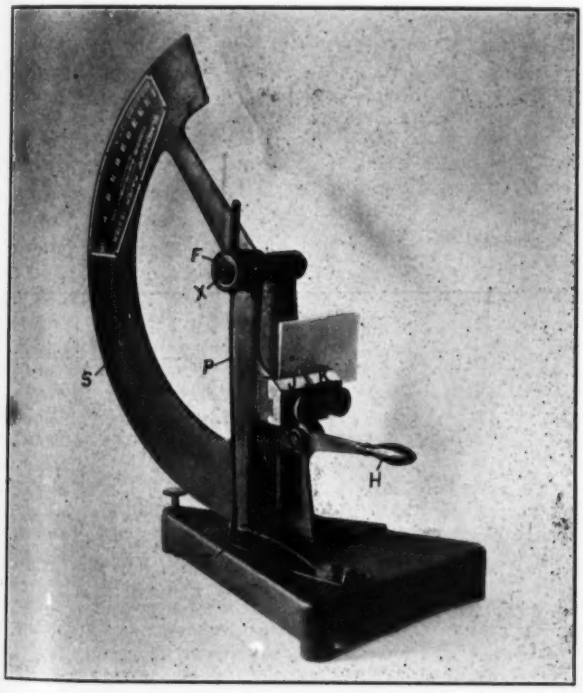


FIG. 1
The Elmendorf Tearing Tester.

to the present form or vice versa. In order to accomplish these ends an adequate fundamental calibration formula was derived, the scale was calibrated according to this formula, and from the formula and the calibration data a weight was designed which could be inserted in the opening in the sector so as to double the capacity of the tester without necessitating any other modification in the original design.

* Published with the approval of the Director of the Bureau of Standards, Department of Commerce, Washington.
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II. The Tearing Tester and Its Calibration

1. Principle of the Apparatus

In the Elmendorf tearing tester a sector-shaped pendulum carries a clamp which is in alinement with a fixed clamp when the pendulum is in its initial position of maximum potential energy

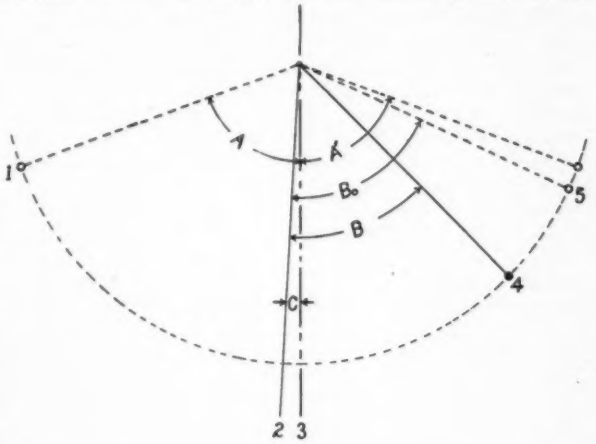

FIG. 2
Diagram illustrating the working principle of the Elmendorf Tearing Tester.

during a test, as illustrated in Figure 1. A specimen of paper is fastened in the two clamps, a slit is made in the paper between the clamps as a starting point for the tear, the pendulum is released and the specimen of paper is torn in two as the moving clamp moves away from the fixed one. As the paper is torn, work is done upon it, which is measured by the difference in potential energy at the beginning and at the end of the swing. Dividing the work done on the paper by the distance the paper is torn (which is constant for all tests) gives the result as a force—the average tearing force. Since the initial displacement angle of the pendulum is fixed, the work done is a function of the final displacement angle; or the angle between the vertical and the line from the center of gravity perpendicular to the axis of rotation. Hence the scale which is attached to the pendulum is so graduated that a pointer indicates the average tearing force directly.

The chief structural details of this tearing tester will be evident from Fig. 1. The sector-shaped compound pendulum S, having an outside radius of 23.3 cm., is mounted so as to rotate about the axis X. A stop R holds the pendulum in the position of Fig. 1 preparatory to making a test. The hub of the pendulum contains ball bearings at each end which run on the stationary journal. Over one end of the hub there is a friction sleeve F to which the pointer P is attached. During the first, or forward, swing of the pendulum the pointer is held in a stationary position by the stop T, so that the graduations of the scale swing past the pointer. On the backward swing of the pendulum, a spring-actuated pin in the friction sleeve, riding in a groove on the hub of the pendulum, produces sufficient friction to hold the pointer on the scale division which has come opposite the pointer at the instant the swing of the pendulum is reversed.

In measuring the tearing resistance of a sample of paper, the pendulum is brought to the position of Fig. 1, a specimen 6.35 cm.

in width is fastened in the two clamps as shown, an initial slit is made by depressing the cutter-handle H, and the pendulum is released by depressing the stop R. The pendulum swings forward, carrying with it the part of the paper fastened in the moving clamp J, this portion being torn away from that which is held by the fixed clamp K. The average tearing force is then indicated by the position which the pointer assumes and maintains with reference to the graduated scale.

2. Calibration of the Apparatus

The calibration is not effected by direct comparison with known standards, the procedure with many testing devices, but is accomplished by means of a formula derived from the behavior of the pendulum. Friction in the instrument, most of which is in the friction sleeve of the pointer, somewhat complicates the calibration.

(a) Derivation of Formula

The initial position of the center of gravity of the pendulum, as illustrated in Fig. 1, is shown in Fig. 2 by position 1. In the latter figure position 4 indicates the highest point reached on the outward swing after tearing the specimen. When no paper is torn and the apparatus operates against instrument friction alone, the highest position reached on the outward swing is indicated by position 5. During the outward swing of the pendulum the pointer is held by a stop in the position 2, being offset by the angle C from the vertical position 3. The initial potential energy of the pendulum in position 1 is

$$Wh(1-\cos A) \quad (1)$$

In this expression W represents the weight of the pendulum, h the perpendicular distance from the center of gravity to the axis of rotation, and A the angle by which the center of gravity is displaced from the vertical in bringing the pendulum to the position of Fig. 1. This angle is approximately 70 degrees.

If the pendulum were released from the position of Fig. 1 and encountered no resistance, its center of gravity would descend through the angle A and then ascend through an equal angle A' to the right of the vertical. Actually, however, the swing of the pendulum is damped by the resistance of the paper which is torn and by friction in the instrument. In this case its center of gravity rises to some position 4, through an arc measured by the angle B-C, to the right of the vertical. The work done on the paper and against friction, being the difference between the initial potential energy and that at the end of the swing, is

$$Wh(1-\cos A) - Wh[1-\cos(B-C)] = Wh[\cos(B-C)-\cos A] \quad (2)$$

If the pendulum is released from the position of Fig. 1 without a specimen in the clamps, the damping resistance will be the instrument friction alone. In this case the center of gravity will rise to position 5, through an arc measured by the angle Bo — C (Fig. 2), to the right of the vertical, and the work done in overcoming the instrument friction, most of which is in the friction sleeve of the pointer, is

$$Wh[\cos(Bo-C)-\cos A]$$

In an actual tearing test, however, when the center of gravity of the pendulum rises through an arc measured by the angle (B—C), the friction loss is less than this amount. Assuming that the pointer friction is proportional to the angle (A + B — C) through which the pendulum moves relative to the pointer, this friction during a tearing test is

$$Wh[\cos(Bo-C)-\cos A]\frac{A+Bo-C}{A+B-C} \quad (3)$$

Hence the work done in overcoming the tearing resistance of the paper is (2) minus (3),

$$Wh[\cos(B-C)-\cos A] - Wh[\cos(Bo-C)-\cos A]\frac{A+B-C}{A+Bo-C} \quad (4)$$

Before the paper is torn a slit is made in it between the clamps, extending slightly above the clamps, so that the part of the paper to be torn is initially all above the clamps. A constant width D of paper (after slitting) is always torn. Under the conditions of the test, in which the paper on one side of the slit is fixed and that on the other side is moved away by the stressing clamp attached to the pendulum, the stressing clamp while tearing the paper must move through twice the distance the paper is torn. Hence to tear across the width D of the specimen a force would have to move through the distance 2D. The average tearing force is therefore obtained by dividing the above expression (4) by 2D.

With the weaker papers it is necessary to tear several plies at once in order to obtain satisfactory readings. Since a single scale is used for a variable number of plies it is necessary to multiply the actual scale reading by a suitable factor in order to obtain the true result. In order to facilitate this conversion the scale readings are made one-sixteenth of the actual values for the specimen torn and these values are then multiplied by 16 in using the conversion factor. It is customary to use one, two, four, eight or sixteen plies according to the nature of the paper and to make the conversion by multiplying the scale reading by a factor obtained by dividing the number of plies N into the number 16. The complete formula for the Elmendorf tearing tester is therefore

$$Wh\left[\frac{\cos(B-C)-\cos A}{32D} - \frac{\cos(Bo-C)-\cos A}{32D}\cdot\frac{A+B-C}{A+Bo-C}\right]\frac{16}{N} \quad (5)$$

which expresses the average force required to tear a single sheet of the paper tested.

The part of the above formula (5) exclusive of the conversion factor is used in calibrating the tearing tester, while the conversion factor $\frac{16}{N}$ is applied to the scale readings obtained in order to find the average tearing force for a single sheet of the paper tested.

(b) Determination of the instrument constants

The various quantities in the above formula (5) were determined for the tearing tester examined. The weight W of the pendulum was found to be 2,400 g. In order to determine h, the center of gravity of the pendulum was located by suspending the pendulum at two different points and, by means of plumb-lines, finding the intersection of two lines containing the center of gravity. Two plumb-lines were used, one in front and one behind the pendulum, so that by lining up the two the position of the center-of-gravity line on the pendulum was readily located. The location of the center of gravity was confirmed by suspending the pendulum from a third point. Besides the normal point of suspension the two angles within the open sector of the pendulum at either side make convenient points from which the pendulum may be suspended. There is a white line near the periphery to mark the position of the line through the center of gravity normal to the axis of rotation. This line was found to be out of place about half a millimeter, and a new center line was scribed. The distance h along the center line from the axis of rotation to the center of gravity of the pendulum was found to be 9.70 cm. This located the center of gravity in the open sector of the pendulum. The quantity Wh for the pendulum was thus found to be 23,280 g.cm. If desired, the quantity Wh may be found, according to the method used by the makers, by taking some convenient but arbitrary lever arm along the center line which contains the center of gravity, attaching a balance and "weighing" the pendulum at this point, the pendulum being supported also at its normal point of suspension.

In this formula D (the width of paper torn) is constant and has the value 4.3 cm.

Since in levelling the instrument the edge of the pendulum stop is brought vertically beneath the axis of rotation of the pendulum, the angle A was measured between the center line and the line, perpendicular to the axis of rotation, which passes through that edge of the pendulum shown lying against the stop R in the position illustrated in Fig. 1 (position 1 of Fig. 2). Angle C was measured between the vertical and the position of the pointer during the outward swing of the pendulum, the position of the

pointer having been determined by trial so that zero reading was obtained by operating the apparatus with no paper in the clamps. Angle Bo was measured between the center line and the line perpendicular to the axis of rotation through the zero point on the scale, because the zero mark is directly under the pointer when the center of gravity of the pendulum rises to position 5 without any paper in the clamps. Likewise the various values of angle B were measured between the center line and the lines connecting the axis of rotation to the major scale divisions. These angles were measured by two independent methods, (1) by means of a dividing engine and (2) by determining the chord subtended by each angle and the corresponding radius, from which data the angles were calculated from the formula

$$\text{Angle} = 2 \arcsin \tfrac{1}{2} \frac{\text{chord}}{\text{radius}}$$

This method was included because it requires no special apparatus and can be carried out by anyone. It is sufficiently accurate, if the measurements are carefully made, as may be seen from the results in Table I. Owing to play in the bearings of the pendulum which makes the exact point of suspension somewhat uncertain, duplicate measurements on the dividing engine would sometimes differ by 2 or 3 minutes of arc. Measured with the dividing engine angle A was found to be 70° 14′, and measured by the chord-radius method this angle was found to be 70° 22′. Angle C was found to be 0° 46′. In Table I are shown the angles determined by the two methods, the actual scale values corresponding to the nominal scale values and the per cent errors in the scale readings. These errors are all positive, and above a scale reading of 30 are not greater than 1 per cent.

TABLE I

Scale Readings	Angle B		Correct Scale Values from Formula (5)		Error of Scale Reading, per cent	
	Dividing Engine	Chord-Radius	Dividing Engine	Chord-Radius	D. E.	C.-R.
0	69° 45′	69° 52′	0.0	0.0	0.0	0.0
10	66° 11′	66° 23′	9.8	9.6	2.0	4.0
20	62° 28′	62° 37′	19.7	19.7	1.5	1.5
30	58° 33′	58° 40′	29.8	29.8	0.7	0.7
40	54° 33′	54° 39′	39.7	39.8	0.8	0.5
50	50° 20′	50° 28′	49.5	49.6	1.0	0.8
60	45° 47′	45° 51′	59.5	59.7	0.8	0.5
70	40° 58′	40° 59′	69.3	69.6	1.0	0.6
80	35° 28′	35° 28′	79.3	79.6	0.9	0.5
90	29° 2′	29° 4′	89.4	89.6	0.7	0.4
100	21° 8′	21° 11′	99.1	99.4	0.9	0.6

The precision of the tester is probably not better than 1 per cent owing to irregular variations in the instrument friction. Noticeable deviations in the zero reading can often be seen in successive trials. This apparently is due partly to changes in the amount of friction in the friction sleeve of the pointer and partly to slight wabbling and chattering in the ball-bearing support of the pendulum itself.

(c) Simple procedure for periodic adjustments.

Having determined the corrections for the scale readings for a given instrument, it is necessary thereafter only to make periodic adjustments of the instrument according to the following procedure:

(1) Raise the pendulum to its initial operating position with the lower edge against its stop. See that the clamps in this position are in line. If necessary bring them into alinement by adjusting the stop.

(2) Allow the pendulum to swing freely through a small arc and come to rest. Adjust the levelling screw until the edge of the pendulum stop is vertically beneath the axis of support (indicated by coincidence of scribed center line with the edge of the stop). Confirm the adjustment by setting the pendulum in motion through a small arc and again allowing it to come to rest.

(3) Raise the pendulum to its initial operating position and put the pointer against its stop. Operate the instrument to see if the zero reading registers properly with no tearing load. If necessary adjust the pointer stop until zero is registered correctly when the instrument is operated under no load.

(4) Raise the pendulum to its initial operating position and, with the pointer registering zero, operate the instrument under no load. The pointer will be pushed beyond the zero reading by an amount which is indicative of the amount of friction in the pointer sleeve. If the pointer is thus displaced by more than 1° (equivalent to about 3 units on the scale measured from zero) the sleeve should be wiped off and the friction pin oiled.

Since the calibration assumes the edge of the pendulum stop to be directly beneath the axis of rotation, the instrument should be carefully levelled each time it is moved.

III. An Attachment for Augmenting the Capacity of the Tearing Tester

1. Design of the auxiliary weight.

It was desired to alter the tester so that it would accommodate roofing felts, and a few preliminary tests indicated that doubling the capacity of the tearing tester would make it suitable for testing this material. It was further desired to design the augmenting attachment so that any scale reading would have just twice its normal value, thus facilitating the recording and calculation of the data. In order not to change the angles A and B it is evident that the center of gravity of the heavy-duty pendulum must remain

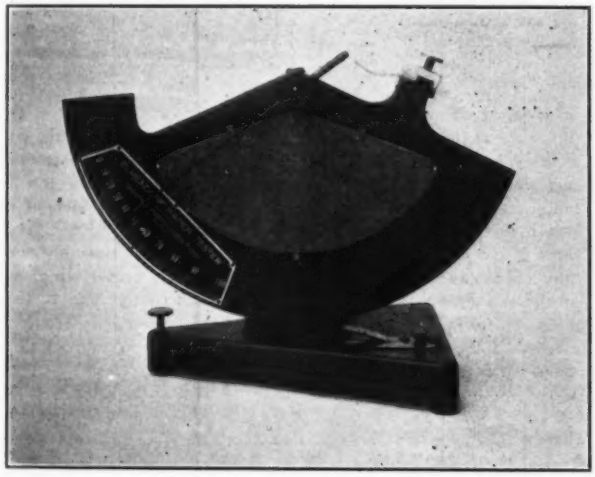

Fig. 3
The Elmendorf Tearing Tester with Augmenting Attachment.

in the center line of the normal pendulum, i.e., in the line from which these angles were measured. It is also apparent from Figure 1 that the open sector of the normal pendulum is symmetrical with respect to the center line, and a weight of homogenous material of uniform thickness fastened in this space would fulfill the condition of maintaining the center of gravity in the same center line. If the heavy-duty pendulum, obtained by the addition of the auxiliary weight, is to double the capacity of the tester, the new calibration formula must be (by analogy with formula (5), omitting the conversion factor)

$$W'h'\left[\frac{\cos(B-C')-\cos A}{32D}\cdot\frac{\cos(Bo-C')-\cos A}{32D}\cdot\frac{A+B-C'}{A+Bo-C'}\right] \quad (6)$$

in which W'h' is the new product of the weight and the distance of the center of gravity from the axis of rotation and C' is the offset angle for the pointer when the heavy-duty pendulum is used. For a given value of Angle B the scale reading determined from formula (6) would be twice that determined from formula (5). Setting formula (6) equal to twice formula (5), (omitting the conversion factor), it is seen that

$$W'h' = 2Wh.F$$

in which F is the ratio of the bracketed part of formula (5) to that of formula (6). The numerator and denominator of F differ only in that the numerator contains C where the denominator contains C', and since the offset angle is small in any case, the value of F is very near unity. Since the pointer friction

(which constitutes most of the friction in the normal tester) relative to the potential energy of the heavy-duty pendulum is but half that relative to the normal pendulum, one may expect C' to be approximately half of C. Upon this presumption F was evaluated for various values of angle B corresponding to the numbered scale divisions. These calculations showed that the greatest error which could result from considering F as unity would be 0.3 per cent. Since the precision of the instrument is probably not better than 1 per cent, it is permissible to consider F unity. Hence, for the heavy-duty pendulum,

$$W'h' = 2Wh = 2 \times 2400 \times 9.70 = 46560 \text{ g.cm.}$$

Later, when the auxiliary weight had been completed, C' was determined experimentally and its value found to be nearly the same as for C, owing no doubt to the greater bearing friction when the heavy-duty pendulum is used. Actually, then, F is nearer unity than was anticipated.

The open sector of the normal pendulum as shown in Figure 1 is not a true sector of a circle, but was treated as such in the calculation of the approximate weight of the insert to be used. The distance of the center of gravity of the sector-insert from the apex was found from the formula

$$X = 3 \cdot \frac{4 \text{ r} \sin \tfrac{1}{2} \text{V}}{\text{V}}$$

in which r, the radius of the sector-insert, was 14.2 cm and V, the angle at the apex, was 140° or $7/9\,\pi$ radians. The value of x is therefore 7.3 cm. It was found that the apex of the sector-insert would lie 2.0 cm below the axis of rotation. Hence the distance from the axis of rotation to the center of gravity of the sector insert was calculated to be 9.3 cm, which is nearly the same as the corresponding distance 9.70 cm for the normal pendulum. From these data it was evident that the center of gravity of the heavy-duty pendulum would be approximately 9.5 cm from the axis of rotation, and that the weight of the sector-insert necessary to double the capacity of the tester would be approximately $\frac{46560}{9.5} - 2400 = 2501$ g. The area of the open sector of the normal pendulum was found to be approximately 250 cm2. Using 8.5 as the specific gravity of brass, the thickness of a brass insert which would weigh the required amount was found to be about 1.18 cm. A brass insert of slightly greater thickness than this was made so as to fit snugly in the open sector and was fastened in place by means of lugs placed symmetrically with respect to the center line as illustrated in Fig. 3. The true center of gravity of this combination was then located experimentally in the manner described above under Calibration, and its distance from the axis of rotation found to be 9.50 cm, turning out to be the same as the approximate value calculated. The required weight of the sector-insert or augmenting attachment was therefore 2501 g. The weight of this brass insert had been made purposely somewhat too great in order to allow for possible errors resulting from assumptions made relative to its area and density. Adjustment of the weight to the required amount was made by drilling holes symmetrically placed about the center of gravity of the heavy-duty combination until the weight was reduced to the required value, the location of the center of gravity not being affected by this procedure.

2. Use of the heavy-duty tester.

Since with the heavy-duty tearing tester the scale readings are just half what they would be with the ordinary tester for a given specimen of paper, the conversion factor for use with the heavy-duty form is $\frac{32}{N}$, the actual scale readings obtained being multiplied by this factor in order to obtain the average tearing force for a single sheet of the paper.

After a few comparative tests had been made to be certain that the results on a given sample were comparable when tested with either the heavy-duty or the normal pendulum, the heavy duty tearing tester was used satisfactorily in testing a large number of roofing felts of various types. The scale readings obtained in this series of tests varied from 8 to 90 on the scale which has a range of 0 to 100.

Mention should be made of the fact that with the heavy-duty pendulum the tester is top-heavy and should be handled with especial care in order not to upset it. Care should also be exercised in raising the pendulum to its initial operating position not to allow it to strike hard against the stop and hammer it out of adjustment.

In tearing thick material such as roofing felts the jaws of the clamps, being separated at the top by the thickness of the material, are not parallel and the material tends to slip. This tendency may be largely obviated by placing small pieces of the same material between the bottom edges of the jaws.

IV. Some Suggested Improvements in the Tester

There are a few alterations in the design of the tearing tester which suggests themselves to one using the instrument and which might add to its performance.

1. At present there is no way of taking up wear in the ball bearings. After the tester has been in use some time the pendulum develops more or less lost motion of an irregular character which gives rise to error in the results. Adjustable conical bearings for the balls would probably overcome the trouble.

2. The pendulum stop should be provided with a horizontal set screw at the end which would serve the double purpose of permitting finer adjustments and of preventing the stop from being hammered out of adjustment by the pendulum falling against it.

3. In like manner a small adjusting screw should be provided for moving the pointer stop horizontally so as to permit finer adjustment of this stop.

4. The white center line is unnecessarily wide. A narrow line accurately placed would permit more accurate levelling and contribute to the performance of the instrument.

5. A multiple scale having graduations corresponding to different numbers of sheets tested, which would obviate the necessity of using a conversion factor, would probably facilitate the testing.

6. The tester should be provided with some means of fastening it in place. During the operation of the instrument it tends to creep along the table or surface on which it rests, this being particularly noticeable when the heavy-duty pendulum is used. On a rough table this affects the level of the instrument enough to make it noticeable in the zero reading, and hence in the tearing results.

7. For use with thick material it would be an advantage to have the jaws constrained to parallel motion and possibly also to have the faces knurled.

Discovery of Paper Makers Alum

Since 1865 the Pennsylvania Salt Company has been importing kryolith from Greenland from which it makes commercial sodium bicarbonate and as a by-product an aluminum sulphate. For a long time the latter product was looked upon as a useless material but one day some one threw some bicarbonate of soda into the vat. A chemical reaction took place and the solid, hard by-product came out in the form of porous lumps.

The lumps were found to be readily soluble and research study showed that this product was suitable for fixing size and could therefore replace the more expensive potash alum previously used. With this information the salesmen visited the mills of the paper industry and the first order came from George Whiting—many years before his company had adopted the slogan "When you think of writing, think of Whiting."

John Neville Leaves Eddy Paper Co.

Kalamazoo, Mich., March 12, 1928.—John Neville, superintendent of the Three Rivers Division of the Eddy Paper Company, has resigned his position. Future plans are not known.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

Bleaching

Behavior of Bronze in Cellulose Bleach Liquor. W. Heike and Fr. Westerholt. Z. Metallkunde 19, 285-7 (1927). The resistance of bronze tubing to corrosion by cellulose bleach liquors is studied, with variation of tin content from 2 to 10 per cent with and without 3, 6 or 9 per cent of lead. In every case the effect of slow or rapid cooling of the castings was determined, as well as the effect of heating for 0.5 or at 700° or long heating at 500°. Of greatest importance is the tin content, heat treatment having a harmful effect on resistance to corrosion up to 6 per cent of tin, while above 6 per cent of tin heat treatment produces an improvement. The loss in weight with 4 per cent of tin slowly cooled without heat treatment was 0.045 per cent while heated at 700° for 0.5 hour it was 0.067 per cent but with 8 per cent tin, heat treatment reduced it from 0.039 to 0.032 per cent. Lead has little effect. With tin-rich bronzes, longer heating at 500° produces even greater resistance to corrosion. The time of immersion in the bleach liquor is 8 hrs.—C. J. W.

Liquid Chlorine. Its use in Pulp and Paper Mills. J. Melrose Arnot. World's Paper Trade Rev. 88, 644, 646 (Aug. 26, 1927). Brief description of the properties of liquid chlorine and of the development of its use as a bleaching agent in the paper industry.—A. P.-C.

The Bleaching of Paper Pulp. Anon. Mon. Papeterie Francaise 58, 396-399 (Sept. 1, 1927). An extract from the "Annales des Arts et Manufactures" of Apr. 31, 1806, describing the process used for bleaching pulp in France 120 years ago.—A. P.-C.

Electrolytic Preparation of Bleaching Agents in the Paper and Pulp Industry. Th. Nissen and M. Hosenfeld. Siemens —Z.7, 374-82 (19273. The types of electrolytic apparatus made by Siemens and Halske are described and illustrated. A brief outline of bleach manufacture in given.—C. J. W.

Production of White Cellulosic Pulp of High Strength. G. A. Richter, assignor, to Brown Co. U. S. pat. 1,635,637, July 12, 1927. Raw cellulose material, such as spruce chips, is digested in an acid sulphite liquor in which the free sulphur dioxide is not in excess of the combined sulphur dioxide, the resulting pulp is washed substantially free from the digesting liquor, treated with a solution containing chlorine, washed and further digested at an elevated temperature in an alkaline liquor, such as caustic soda solution.—A. P.-C.

Process for Bleaching Pulp. Köln-Rottweill Akt.-Ges. and E. Opfermann. Fr. pat. 595,503, July 18, 1925. Very white pulp is obtained by adding small quantities of caustic alkalies to the usual bleaching powder or sodium hypochlorite bleaching liquors. The cellulose may be first treated with caustic alkali (including slacked lime or magnesium hydroxide) and then bleached as usual; or it may be treated with the usual bleach liquor to which the alkali has been added; or, finally, the pulp may be subjected to a slight preliminary bleaching before subjecting it to a final bleaching.—A. P.-C.

Process for Improving the Color of Pulp. F. G. Rawling. U. S. pat. 1,630,635, May 31, 1927. In obtaining pulp from chestnut wood chips or other vegetable material containing organic acids, in apparatus in which the material comes into contact with iron which tends to darken the color of the pulp, an oxide or hydroxide of an alkaline starch e. g., slaked lime is added to the pulp to form ferric hydroxide and give the pulp a lighter color.—A. P.-C.

Process and Apparatus for Bleaching Wood Pulp. F. G. Sherbondy and M. E. Boehm. U. S. pats. 1,638,886 and 1,638,-965, Aug. 16, 1927. The pulp is introduced into an air tight, spherical, rotary bleacher, in which it may be placed under pressure. Attached to the inner wall of the bleacher are agitating blades, adjacent blades being formed so as to prevent alternately convex and concave surface to the pulp. This construction, in conjunction with the spherical shape of the bleacher, produces an alternate spreading and concentration flow of the pulp as the bleacher is rotated. No. 1,638,886 covers the process, and No. 1,638,955 the apparatus.—A. P.-C.

Bleaching Process and Apparatus. C. B. Thorne. U. S. pats. 1,634,388, July 5, 1927; 1,642,978, Sept. 20, 1927.—No. 1,634,388—A mixer is provided consisting of a horizontal tapered casing inside which is a horizontal shaft with agitator paddles or arms. The stock at high density is introduced at the smaller end, and near the stock inlet are hot water and bleach inlets through which these liquids are introduced from suitable measuring tanks. From the mixer the stock passes by gravity to a tapered, round, vertical tower, with the larger diameter at the bottom, provided with a vertical hollow rotating shaft. Attached to the shaft near the top of the tower is a straight levelling arm for spreading out the mass equally as it enters; somewhat below the middle of the tower the shaft is provided with a curved arm provided with a large number of perforations through which the air is injected into the mass of pulp; at the bottom is a scraper arm curved in the opposite direction to the air-injector arm, which serves to discharge the pulp through an opening in the center of the base of the tower. The pulp goes from the tower to a washer and thickener. For multi-stage bleaching a number of such bleaching units may be provided. Instead of a round tower, a square tapered tower may be used, provided with a number of downwardly extending perforated pipes for injecting air and with a number of rotatable grate members having flange plates to discharge the pulp at the bottom of the tower. No. 1,642,978 covers the process. No. 1,643,566 covers the process of bleaching pulp in two or more stages, one stage being carried out on the pulp at a high density (15 to 20% or more) and the other stage at low density (10 to 5% or less). In order to secure uniform feed of the high-density stock to the mixer, the thickened stock is fed to an equalizing tower similar in construction to the bleaching tower, but without any levelling arm and without any air-injector arm.—A. P.-C.

Pulp and Paper Testing

Strength Testing of Wood Pulp. The Proposed Standard Test Conditions for Determining the Initial Strength of Pulp. G. P. Genberg. Paper Trade J. 84, No. 11, 51-58 (Sept. 15, 1927). A reply to criticisms of the method as published early in 1927 (Cameron et. al. Genberg, Paper Trade J. 85, No. 10, 51 (Sept. 8, 1927); Pulp and Paper 25, 929 (July 21, 1927), with a further discussion of the various conditions of the method in the light of data collected before and since its first presentation.—A. P.-C.

The Determination of the Copper Number. D. Clibbens and A. Geake. Paper Trade J. 85, No. 12, 62 (Sept. 22, 1927). Owing to C. G. Schwalbe's work on the copper number determination, it is suggested that all methods for this determination be prefixed with his name e.g. Schwalbe-Hagglund, Schwalbe-Braidy, etc. The latter has been found greatly superior to the former in testing materials with low copper numbers such as

are used in the textile industry; but it may require modification for use with materials having a high copper number, e.g., wood pulps. No evidence has been found that the swelling of cotton cellulose exercises any influence on its quantitive absorption of methylene blue, such differences as have been noted being traceable to purely chemical differences rather than to differences in the degree of swelling.—A. P.-C.

Paper Qualities. Jessie E. Minor. Paper Trade J. 85, No. 13, 41-42 (Sept. 29, 1927). cf. Nourse, Pulp and Paper 25, 809-810 (June 23, 1927); Paper Trade J. 85, No. 3, 45-46 (July 21, 1927). A discussion showing that it is not possible to compare the qualities and permanence of two papers merely on the alpha-cellulose content of the raw materials unless it has been first ascertained that the fibers are of the same kind, that the mechanical treatment has been equally drastic, and that the chemicals added during the process of making the paper are identical and have had equal opportunity to attack the fibers.—A: P.-C.

Paper-Fiber Disintegration. Some Minute Problems. James Scott. Paper Maker and Brit. Paper Trade J. 74, 27-31 (July 1, 1927). A description of whole, separated, severed and fibrillated fibers, as seen under the microscope, particularly when examining torn papers.—A. P.-C.

Effect of Atmospheric Humidity on the Moisture Content of Paper. T. D. Jarrell. Paper Trade J. 85, No. 3, 47-51 (July 21, 1927). The amount of moisture absorbed and lost by 50 samples of commercial paper of different grades exposed successively in air of 35, 50, 65, 80, 65, 50, 35, 50, 65, 80, 65, 50, 35, 65 and 35% relative humidities at 70° F. was determined. The results show that the moisture content of the paper is appreciably higher at 50 to 65% relative humidity and 70° F. when these conditions are approached from a high humidity (80%) than when approached from a low humidity (35%). Some samples from paper of the same class show a wide difference in moisture content. Paper containing groundwood, rope or sulphate pulp contains more moisture at a given humidity than paper made of all rag, coniferous wood (sulphite), broad leaf wood, or a mixture of these. Newsprint paper has a higher and blotting paper a lower moisture content than any of the other classes of paper tested. Experiments on the rate of absorption and loss of moisture when paper is transferred from an atmosphere of 35% relative humidity to one of 65% at 70°F., and then back to 35% humidity showed that moisture is absorbed more rapidly than it is lost. In general, under the conditions of the experiment, 48 hours are required for the attainment of equilibrium when the paper is transferred from 35% to 65 relative humidity, and about 6 days when it is changed from 66 to 35 relative humidity.—A. P.-C.

Expansion of Paper with Varying Humidity. Roger C. Griffin., Paper Trade J. 85, No. 5 51-54 (Aug. 4, 1927). An "expansiometer" is described consisting essentially of a conditioning chamber made from a glass tube 1.5 in. inside diameter and 2 ft. long, capped at the top and bottom with brass collars cemented to the glass tube; through holes drilled in the top collar are 2 sliding brass rods, vertically adjustable by means of set screws and terminated at the bottom by clamps to hold strips of paper; two similar rods with clamps on their top ends pass through the lower column and are connected by slots in the lower ends to two pointers which are in the same vertical planes, respectively, as the brass rods and which are so counterposed as to put practically no strain on the paper strips. The humidity of the air in the conditioning chamber is controlled by blowing a gentle current through wash bottles containing sulphuric acid of definite strength (or, for 100% humidity, water). The pointers are designed so that with a 10 in. strip of paper each small division on the scale corresponds to a change of 0.01% in the length of the paper strip. The technic of the test is described. Results obtained in testing a number of samples of different grades of commercial papers are tabulated, and lead to the following conclusions: (1) the percentage elongation between 20 per cent and 80 per cent relative humidity is approximately a straight line curve; (2) The elongation is considerably greater in the cross than in the machine direction; (3) Waxed paper is not appreciably affected below 60 per cent; (4) In most cases the increase in elongation between 80 per cent and 100 per cent humidity is considerably greater than the increase between 60 per cent and 80 per cent humidity. It was found that if the paper is completely dehydrated and then tested under increasing humidity conditions, more concordant results may be obtained and the paper comes to equilibrium in a much shorter time than when the tests are started at a high humidity and the humidity is subsequently lowered.—A. P.-C.

Constant Humidity Testing Room. H. T. Ruff. Paper Trade J. 85, No. 8, 50-51 (Aug. 25, 1927). A detailed description of a small constant humidity and constant temperature room developed and built in the laboratories of the Mead Pulp and Paper Company, Chillicothe, O., designed to give satisfactory regulation at a cost that would not be considered prohibitive.—A. P.-C.

Technical Control in the Paper Industry. Allen Abrams. Paper Mill 500, No. 40, 18, 36 (Oct. 1, 1927). Brief discussion of the function of technical control in delivering an acceptable commodity, producing the tonnage, lowering costs, and decreasing sales resistance for the marketing of the product.—A. P.-C.

Device for Indicating the Moisture Content of Paper. F. A. Peschl. Eng. pat. 273,230. The moisture content of the paper web at any suitable point in its passage through the paper machine is indicated by providing electric contacts adapted to engage the web, such contacts being mounted in spaced relation and insulated from each other, and included in an electric circuit containing a galvanometer or like measuring instrument. The device preferably comprises a number of plates of copper, or other conducting metal, arranged within a block of insulating material, the plates being preferably connected electrically in two series, with the plates of one series alternating with those of the other series. The block, which is mounted so as to have pivotal movement in the direction of travel of the paper, is supported on guides so as to be capable of lateral and vertical adjustment with respect to the sheet. A device for compensating for variation in the acidity of the stock is preferably provided, and may comprise a resistance consisting of plates immersed in stock contained in a tank, such resistance being arranged in a branch circuit, and the branch circuit may include a coil incorporated in the measuring instrument and would in a direction opposite to that of the actuating coil of the instrument. Alternatively a manually adjustable resistance may be provided, such resistance being connected either in series with or parallel to the resistance of the paper.—A. P.-C.

The Freeness Test in Roofing Felt Manufacture. Philip W. Codwise. Paper Trade J. 85, No. 4, 52-54 (July 28, 1927). A tester which has given satisfactory results in controlling the freeness of roofing stock consists essentially of a vertical glass tube about 1⅞ in. internal diameter and over 25 in. long, fitted at the bottom with a 50-mesh wire-cloth screen and with marks indicating volumes of 200 cc. and 1050 cc., measured from the bottom. Means must be provided for sealing the bottom of the tube and subsequently releasing the same to give an unobstructed flow through the wire screen. The determination is carried out by filling to exactly the 1050-mark with stock containing exactly 1 g. of fiber in 300 cc., releasing the sealing device at the bottom of the tube, and noting the time (in seconds) required for the level of the liquor to fall to the 200-mark. When care is taken that the test is carried out at exactly 80°F., that the consistency is exactly 1 g. of fiber in 300 cc., and that exactly 1050 cc. are taken for the test, duplicate results (within 1-2 seconds) are readily obtained. Representative examples are given of the type of results obtained with different kinds and weights of felts. The application of the test to mill control is briefly discussed.—A. P.-C.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Edited by
THOS. J. BURKE, C. A., Sec.-Treas.

The Sherman Act Today*

Shall the Small Industrial Unit Survive?

By James Harvey Williams

[*This article is reprinted by the Cost Association of the Paper Industry in cooperation with the* PAPER TRADE JOURNAL, *because our work is to promote the use of better costing methods in our industry and the principle that selling prices should be based on correctly calculated costs. Competitive conditions today are such, that this sound business principle is being overlooked and these conditions are partly due to the operations of the Sherman Anti-Trust and Clayton Acts. Are the smaller mills in the industry to be forced out of business as a result of the prohibitions of these Acts? If so, as Mr. Williams says, "Their eventual failure is detrimental since it usually means the substitution of a new competitor on the basis of a bargain purchase, whose consequent lower capital charges permit the use of lower basic cost rates and thereby convey an* unearned cost advantage *for the future over the more established members of the industry."*—T. J. BURKE.]

I

For some time past the rapid growth of consolidations and combinations of capital has challenged thoughtful consideration. Thus far it has done little more than issue a "challenge" to which public opinion has failed to respond. One school of thought "points with pride" to the size of our mammoth corporations, to their supposedly lower costs of doing business, to the era of "bigger and better business," to our giant banking consolidations, and to the corresponding growth of the various other facilities necessary to serve such clients. Another school inevitably "views with alarm," wonders whither we are drifting and how far distant is the time when many more of our industries will become definitely closed to the individual or to the company of even substantial means for mere lack of the rapidly increasing capital requirement. While there is as yet no unanimity of opinion, there is, nevertheless, a clear indication that, unless this entire question is subjected to an early analysis, the capital consolidation movement will go on unchecked to a point where the small unit in many industries will have ceased to exist.

These combinations or mergers are of several types, each based upon some economic principle, either sound or otherwise. There is the so-called "horizontal" merger, comprising directly competing interests, and formed as a rule either to reduce the fixed operating or sales-expense ratio or to lend stability to the sales market by removal of a disturbing competitor whose individual inefficiency or selfishness denies to the industry a fair profit. Then there is the so-called "vertical" merger, which was originally planned so as to acquire the sources of raw material or to increase the market for the product. But of late this plan has been extended to the acquisition of concerns making products that go to the same class of customers even though the manufacturing problems of the several products may have nothing whatever in common. The object here is to be able to offer the customer all of his requirements in allied lines from one sales organization, thereby decreasing sales resistance and promoting sales that, in part at least, would probably have gone to some of the competing makers of single products. Thus we see the card index, the typewriter, the files, the filing cabinets, adding machines, ledgers, office furniture, and so forth, all brought together by merger under one sales roof, so that the customer equipping an office need deal with but one organization for all of his allied requirements. In much the same manner we see the breakfast-food manufacturers acquiring by purchase other quite different foodstuffs, with the result that we may soon expect to see them advertising breakfasts instead of products! At the same time the "horizontal" combinations are threatening to bake all our bread and spoil all our laundry from Maine to California—and the end is not yet.

Now it will scarcely be denied that some of these objectives have a sound economic basis, a fact which "progress" cannot resist, regardless of the fate of the small industrial unit. But the great majority of these combinations are founded upon the necessity for price stabilization. To prevent the demoralization that unquestionably exists in many industries today (despite the recent period of exceptional national prosperity) it is surely high time that an effort be made by some authoritative body to study the whole problem, to the end that future consolidations having improvement of the price structure for their major motive may be avoided by the appropriate legislation based on a truer conception of the public welfare. It is by no means unlikely that such an investigation impartially conducted would show that some of these mergers which may have seemed to be necessary under past conditions of legislative restriction would have been unnecessary and unwise if based upon the operation of natural law.

As a background for this proposed study, and lest the reader has mistaken the recent period of great national prosperity to mean *universal* prosperity, let us first ponder the meaning of a few of the figures recently issued by the Bureau of Internal Revenue for the comparatively active business year of 1925. How many would believe that more than 40 per cent of the net profits of all the 430,000 corporations in the United States were earned

* Reprinted from the Atlantic Monthly, March, 1928.

by only 196 corporations? Or that the next group of 937 companies, each earning between $1,000,000 and $5,000,000, accounted for substantially 25 per cent of all corporate profits? Less than one-twentieth of one per cent earned over 40 per cent, less than one-fourth of one per cent earned 25 per cent; 65 per cent of the 7,651 millions of total profits earned by scarcely more than one-fourth of one per cent of all the corporations!

The manufacturers appear to have done but slightly better than the average: 95 corporations earned 1,650 millions; the next group of 446 showed profits of 900 millions. Together these 541 concerns acquired more than two-thirds of the 3,701 millions of total net profits, for which no fewer than 88,674 manufacturers competed. And two out of every five showed losses! These figures demonstrate very clearly the domination of the larger units in industry.

A recent report of one industry will illustrate an experience by no means uncommon. In the *Daily Metal Trade*, the independent sheet-steel industry was recently represented as consisting of 543 hot mills, with working capital a total investment of 110 millions. Over a recent period, notwithstanding that they operated with the utmost efficiency and at 108 per cent of normal capacity, they showed a total net deficit of two million dollars—such was "the life of trade" as practiced by their customers, aided by the inability of the industry under our laws to compel fair play. One of these plants in March, 1927, operating at 100 per cent capacity, lost $18,000; a month or so later it shut down completely and lost only $8,000—a comforting way of figuring a net gain to itself and a net loss to the buyers of $10,000! Yet the country needs sheet steel, which is neither an infant industry operated by amateurs nor an industry whose recent experiences are unique. Is it strange, therefore, that we hear so much complaint of "profitless prosperity"? Or that, even since the foregoing was written, six of these companies in Ohio have announced their consolidation, commented on in the public press as follows:

Further mergers of sheet-steel companies, hard hit by irregular business and price depression, show indications of materializing. Pressure of trade conditions brought about the recent six-company merger of sheet rollers in Ohio, for the most part non-integrated producers. . . . Breakdown of sheet prices in the last sixty days, after strenuous efforts to sustain the market, is hitting the smaller, nonintegrated interests. Weaker companies are being compelled to unite with stronger and more fully integrated producers.

II

If our so-called antitrust legislation as embodied in the Sherman Act of 1890, and supplemented by the Clayton Act of 1914, were merely antitrust laws, as the titles indicate and as popularly supposed, there would be small reason for the widespread criticism that has been more or less privately visited upon them by those who have been familiar with their effect upon many of the smaller business enterprises of this country. For, in so far as the Sherman Law has performed the function for which alone its creators strove, and has protected "trade and commerce against unlawful restraints and monopolies," it has been effective in preventing the growth and continuance of the grossly unfair business practices that so outraged the moral sense of the country prior to its enactment. In the accomplishment of that purpose probably no greater or more laudable service to a self-respecting citizenry has ever been performed by any piece of legislation. As thus responsive to a popular demand of thirty-eight years ago, and as thus popularly understood today, its wisdom remains unchallenged. It is, therefore, only with some of the subsequent ramifications and diversions of the original purpose, which have come down through the succeeding years as the result in part of judicial interpretations and in part of the momentum lent to the popular psychology by politicians, that criticism has had to deal.

It will be readily recalled by the active business men of the late eighties that the demand of the country for remedial legislation sprang from the disclosure of various unconscionable practices on the part of the "big business" of that day, among which was the granting of rebates by the supposedly common carriers to their larger corporate customers, to the obvious disadvantage of the less favored competitors lacking the purchasing power to compel equal treatment. This discrimination was sometimes sufficient in itself to render the business existence of the smaller companies a mere matter of sufferance. Another, and an even more direct, abuse was the constant attempt of big business to put its small and struggling competitors out of business by such methods as the placing of a new store alongside a competitor's and selling its wares below cost temporarily until the small man's capital should be exhausted. Often, rather than liquidate or repeat the experience in a new location, the latter would sell under pressure, the "enemy" recouping its momentary local loss by acquiring a bargain, and thus still further strengthening its ability to do likewise elsewhere. These, and other equally reprehensible practices, had for their weapons sheer weight of capital and the country demanded of its legislators in no uncertain terms restriction of this growing monopolistic "trust" movement—immediate, drastic, absolute. Hence the title: "The Federal Antitrust Law." Hence the subtitle: "An Act to protect Trade and Commerce against unlawful restraints and monopolies." Hence the absence in that law of any prohibition save that which declared that "every contract, combination in the form of trust or otherwise, or conspiracy in restraint of trade or commerce, is hereby declared to be illegal"; and again, "Every person who shall monopolize . . . or combine or conspire with any other person to monopolize any part of the trade or commerce . . . shall be deemed guilty of a misdemeanor," and so forth. These quotations are the essence of the Sherman Law, the balance merely covering matters of definition, execution, and jurisdiction. The Clayton Law, enacted in 1914, in so far as it touched upon public policy, merely added the phrase "to substantially lessen competition" to the above-mentioned illegalities, although for purposes of clarity it also added a number of specific inhibitions to the more general "restraint of trade" and "monopoly" terms of its predecessor.

It will be observed in passing that the outcry against anything savoring of monopoly or oppression obviously reflected a commitment of the public opinion of the day to the converse of the question—the preservation of the smaller capital unit in industry—and there is no subsequent evidence of a conscious change in that fundamental national policy as then recorded. There is also no evidence, either in the public records of that time or otherwise, to show that anything other than an *antitrust* demonstration was contemplated or even desired in the operation of that law. But, whereas the meaning of the words "restraint of trade" has gradually and even subconsciously become subject to extended degrees of definition, nothing can be clearer than that the most flagrant "restraint of trade' conceivable then or since would have been the operation of this law in such manner as to create the incentive, if not the necessity, for the acceleration of capital consolidation!

Yet that is just what has happened. Why? Because of a curious twist in the workings of mass psychology. "Trusts," as has been shown, were anathema to the public. That fact furnished fuel for many candidates for office for some years to follow. By the same token many will recall the cartoons about the "octopus," the "money power," and the glee that used nightly to greet Weber and Fields' definition of a trust as "a body of men surrounded by money." It was then but a short step to the period of "the malefactor of great wealth," the "trust busters," the "square deal," and the "short and ugly word." Mr. Roosevelt's successful appeals to the conscience of the country had many imitators of more demagogic character, and of less constructive purpose. Gradually the Sherman Law had come to be interpreted, both in the public mind and in the courts, as prohibiting gentlemen's agreements between any competitors—large or small—that tended even theoretically to influence a price level, to limit production, or to

apportion territory according to natural markets, and also quite regardless of whether the effect was beneficial or otherwise. The public was thinking, and still is, of preventing monopoly and the concentration of capital in the hands of the few, but the politicians and the courts have been telling us in effect, until the public has come to believe it, that the way to accomplish that result is by preventing competitors from even discussing their most vital mutual problems, upon which their ability to continue to serve the public, nay, even their very existence, is often based. Never, surely, has the intent of a legislative policy been so emasculated, or so subjected to what the informed laity may well term "injudicial interpretation"!

One instance of this is the case of an entire industry during the extreme depression of 1921. The average capacity operation at the time was about 10 percent, and losses consequently great. The industry submitted to counsel plans for letting one or two factories do the work for all, so that the others might close down temporarily and cover their reduced fixed expenses by sharing in the general result on some mutually satisfactory basis. Counsel was obliged to advise that such action was thoroughly contrary to the law as construed by the courts, and as "restraint of trade" was defined. The industry, facing ruin, was, therefore, forced by that highest of all laws, the instinct of self-preservation, to disregard counsel in order to save its property.

Another instance of a different character. In 1922 or thereabouts coal was selling in the market at an abnormally high price, the demand, due to strikes or what not, exceeding the supply. A conference was called by the Department of Commerce at which an agreement was reached between the operators as a unit under governmental auspices, resulting in the immediate announcement of a much lower price for the public. The Government feared a further rise, with all its attendant suffering, so intervened as an "observer." Both the Government and the operators obviously violated the Sherman Law as "restraint of trade" is interpreted. But, considering the result, the public applauded, and the Attorney-General's office had "no information"! During the war, of course, this procedure was common under government sanction and in the name of "public interest."

Examples of ruinous price competition due to the illegality of protective price measures will come readily to the minds of most business men. Those caused by our inability to limit an industry's collective output are far less numerous. However, two illustrations of far-reaching effect are to be seen in the coal and oil industries. These occupations are notoriously either a feast or a famine. It has been so difficult to maintain equilibrium between supply and demand that prices have constantly been subject to violent fluctuations according to whether we were for the moment experiencing a shortage of supply or a plethora of unemployment, with all its widespread suffering. In the coal industry the operators and the miners have filled the headlines of our newspapers almost annually with their sincere but pitiful efforts to agree upon a wage that would fairly compensate the miner for his periods of unemployment without making the cost of heat and power too prohibitive for the public. Arbitration, mediation, and inquiry after inquiry have all failed to find a permanent solution that will ensure stability under present conditions. The crux of the problem is said to lie in the fact that there are two thousand too many mines and two hundred thousand too many miners, and that only through production agreements which would contravene the Sherman Law could the needed "deflation" be accomplished. Similarly, in the oil fields, regulation of total production would require an illegal agreement between the producers. But the philosophy of America deems it in the public interest that in times of overproduction we shall squander our natural resources for a mess of pottage when no one is anxious to buy, and produce an insufficient supply at an exorbitant price when demand is active, rather than permit the producers to agree together upon a policy that will tend to conserve resources and stabilize employment!

Only a few years ago members of trade associations were advised not even to discuss or compare their costs, except by the use of key numbers by which each member might identify only his own report, and they were further advised to file with the Government a disclaimer of any price activity as a presumption of innocence. Any cost statistics exchanged for the information and improvement of the industry might be in the "twilight zone," unless filed with the Department of Commerce for public circulation. Competitors meeting by chance in public began to feel as though they were carrying marked bills, and jumped if tapped on the shoulder. The situation became intolerable, and many industries abandoned all efforts to progress together, and adjourned *sine die*. Many have never reassembled. Then came Mr. Hoover in the Department of Commerce, who undertook to see what he could find in behalf of industry, which was looking so eagerly to him for relief. He initiated the famous Hoover-Daugherty correspondence, wherein he asked the Attorney-General what, if anything, his clients—the industries of the country—might lawfully accomplish together. Industry suspected it could do nothing very beneficial to anybody, but wanted to grasp at any hopeful straw. So Mr. Hoover wrote. Mr. Daugherty replied in effect, "Try me and see"—and that was that.

Conditions to this day are practically unchanged, except that in its more recent utterances on the general subject the Supreme Court has liberalized that situation somewhat by declaring:-

Trade associations or combinations of persons or corporations which openly and fairly gather and disseminate information as to the cost of their product, the volume of production, the actual price which the product has brought, in past transactions, stocks or merchandise on hand, approximate cost of transportation from the principal point of shipment to the principal points of consumption, as did these defendants, and who, as they did, meet and discuss such information and statistics without, however, reaching or attempting to reach any agreement or any concerted action with respect to prices or production or restraining competition, do not thereby engage in unlawful restraint of commerce.

This is some little progress, to be sure, but after all, courts may only "interpret"; they may not legislate or determine fundamental policy, and therefore may not go afresh to the root of the trouble. That may be done only by Congress, enforced by public opinion. And so, in the light of that bit of solace, trade associations are being generally and properly advised by counsel today to be very careful to do nothing beyond those powers specifically conferred, lest the present gradual progress be interrupted. What one may lawfully do even in the interest of self-preservation is still far too limited for law-abiding men to achieve any substantial measure of cooperative effort. And now, paradoxically, as a result of a certain recent investment by one large corporation in the securities of another operating in an entirely unrelated field, we see Congressmen quoted as favoring the "strengthening" of our antitrust restrictions by legislative enactment without evidence of the slightest realization that the same result could be accomplished in far greater degree by removing some of the present restrictions that prevent the operation of natural law. Well, it is at least an acknowledgment by indirection that the avoidance of capital concentration is still the goal of public opinion—but what a travesty on economic law and common sense it all is!

III

Clearly, therefore, if substantial relief for "small business" is the real intent of public sentiment, the phrase "restraint of trade" must be redefined. As long as the theory persists that cutthroat price competition "is the life of trade," so long shall we hear leaders in most of our industries advocating, and see them building, further combinations of capital as the only way out of the demoralized conditions that even today infest so many important industries. In times of depression it is plain that still more of these mergers will be forced into existence. For obviously, if the seller may not lawfully check the statements of the buyer (who is highly paid to play members of an industry against each other

that the price may be depressed), and if it is in the interest of trade that purchasers may organize (as they do) while sellers may not, the natural thing is to resolve an industry into a few large aggregations of capital, and so minimize the number of competitors. If care then be taken that no one combination exceeds the 50 per cent dead line of total capacity established by the Supreme Court, much of the present unfair advantage of the organized buyers will be destroyed. But, is this concentration, what the country really wants?

Now, what is behind this theory of price competition to the utmost? Is it the notion that it is in the "public interest" that goods shall reach the consumer as cheaply as possible, regardless of whether the producer or distributor is worthy of his hire? Does the consumer alone constitute the "public"? Does not modern society live by exchanging the product of one individual for that of others, and are not the interests of producer, distributor, and investor an equal part of the "public interest" with that of the consumer? In the last analysis, have we not each of us a dual capacity both as earner and as spender, and can society spend without earning or live without spending? Surely it should be self-evident that where a whole industry operates with little or no profit, as is frequently the case today, the purchasing power of both labor and investor is either diminished or threatened, and that a continuance of that condition means either loss of capital or combination. Stabilized prices mean stabilized wages; the two together mean stabilized purchasing power, which exercises an all-important influence upon the stabilization of business activity.

Or is it the notion that the establishment of fair prices for standard products by an industry would guarantee a living to the inefficient, otherwise unobtainable, and would unduly reward the efficient? If so, let it be said that the leveling influence of the economic law of supply and demand, given free play, may be safely relied on to control the situation, especially when the public's interest is further protected by the "reasonable" requirement of the common law—"reasonable" meaning simply that the restraint upon one party or upon the public shall be no greater than protection of the other party's interest requires. First, because enlightened self-interest will usually operate to stabilize prices in times of demand at a "reasonable" level that will not invite new competition; secondly, because the strong are loath to concede that the world owes a living to their weaker competitors except as the overdevelopment of their power would bring them within the monopolistic category.

For an illustration of this type of self-restraint that is occasionally practiced in deference to the *genuine* antitrust features of the Sherman Law, one need look no further than the United States Steel Corporation. Here was a corporation which the Supreme Court refused to dissolve because the Government could not show that it had abused its power, notwithstanding that it constituted almost 50 per cent of the country's steel-making capacity. Investigation brought out the fact, that the Corporation, under the sagacious leadership of Judge Gary, had pursued a consistent policy of "live and let live" in the face of its conceded ability to produce steel for about three dollars per ton less than its competitors. Its ability to cause the ruin of these competitors was therefore manifest. But to have thus exercised its power would inevitably have created a virtual monopoly, which in turn must have caused its early dissolution and the consequent disintegration of the very factors that had produced its low cost efficiency. Therefore, we had the anomaly of a powerful corporation given a clean bill of health because, in effect, it had kept its prices up to a point where its competitors might live! Of course, no one may justly quarrel with the decision in question, but one may logically wonder why the same privilege of survival is not conceded to the many smaller industries where the danger of monopoly does not exist.

Wherein is it a restraint of trade if an industry be permitted to take such steps as are necessary for its own preservation? No country may expect to attain perfection; we have our thieves, murderers, bootleggers, and no doubt shall continue to have, but we do not intentionally penalize the preponderant honest majority because of the few. So, even supposing, as we must, that an "unreasonable restraint" will be practised here and there with only greed for its motive (as no doubt it is today), is not that offending industry easier to deal with when such restraint depends upon the concerted action of many loosely associated units than when those same units—with greater presumption of legality—combine for the same purpose within one or two dominating aggregations of capital that cannot so readily be disbanded or reformed?

Price-fixing, that supposed synonym for opprobrium, where it could be applied at all, would operate chiefly to prevent demoralization when supply exceeded demand. It is, of course, here that its public benefit would accrue. Admittedly in many industries it would not be feasible in any case, because of the varying character, design, and requirements of the product or the multiplicity of the sources of supply. The assumption, however, that legalized price-fixing is merely an invitation to human cupidity is contrary to general experience. Cupidity may dominate a company,—for a brief span of life, yes,—but not an entire industry composed of numerous independent units. The simplest proof of this is the absence of important or frequent objections to price-fixing either in America in the "old days" prior to 1890 or in any of the other industrial countries of the world today.

In this connection it is well to remember that Adam Smith and John Stuart Mill did not discover or preach their immediate economic laws as observers of an artificially restricted economic era. On the contrary, they had only natural laws to judge by, such as have held sway in every civilized land but ours. It is true that modern conditions of intensive economic development even in other countries have required artificial protection against monopoly and against such other unreasonable restraints as might occasionally be attempted, but where sufficient independent sources of supply exist there have been relatively few complaints of pernicious agreements. In the existing interpretations of our system, however, the mere fact of agreement as to prices, production, or territory is prima facie evidence of illegality.

In this discussion attention has been centered upon price agreements as perhaps the most "opprobrious" aspect of "restraint of trade" in the effort to show that they need not "unreasonably" restrain trade, especially if surrounded with proper, rather than misdirected, safeguards. But it is not price-fixing alone that is the crying need of so many industries today so much as the privilege of complete cooperation for the stabilization of a moderate prosperity to *capital efficiently conducted and labor efficiently performed;* education in such matters as what constitutes a fair profit, based on such factors as the proportion of investment required, the frequency of capital turnover possible, and the degree of risk involved—all of which factors vary with the type and conditions of individual industries. Upon such vital subjects competitors may not lawfully take counsel with each other, although they alone possess the collective knowledge that would educate those managements which are willing to risk their stockholders' capital. The theorist will say that no one need "choose" today to sell below cost, but to him it should be said, "Try to stop it." Surely he will get no help from the customer's purchasing agent, for every industry contains some who think they can take another's business away by price concession without suffering retaliation, and who will always think they can successfully produce what their competitor is alleged to be offering, while the law as now construed will not permit them to get the correct information until too late, if then. To be sure, it is the weaker element who give way, but their eventual failure to prosper and survive is detrimental to any industry, *since it usually means the substitution of a new competitor on the basis of a bargain purchase, whose consequent lower capital charges permit the use of lower basic cost rates, and*

thereby convey an unearned cost advantage for the future over the more established members of the industry affected.

IV

How many who read this paper have realized that no other country has ever thought of interpreting "reasonable" price or policy-stabilizing agreements as "restraint of trade," or of construing the lowest price to the consumer as the sole factor of national economic well-being?

Observe the contrasting and representative British point of view as expressed by the British Court in the well-known Australian Collieries case:—

It was also strongly urged that in the term "detriment to the public" the public means the consuming public, and that the legislature was not contemplating the interest of any persons engaged in the production or distribution of articles of consumption. Their Lordships do not take this view, but the matter is really of little importance, for in considering the interests of consumers it is impossible to disregard the interests of those who are engaged in such production and distribution. It can never be in the interests of the consumers that any article of consumption should cease to be produced and distributed; as it certainly would be unless those engaged in its production or distribution obtained a fair remuneration for the capital employed and the labor expended. . . . In the first years of the present century a new coal field . . . began to be developed. . . . The proprietors accordingly entered on a course of ruinous competition with each other. . . . The collieries in the Newcastle coal field were ceasing to pay dividends and falling into the hands of the banks who had financed them; the miners had little chance of an advance in wages, though there had been a general advance in prices; and the prosperity of Newcastle, which is dependent on the coal industry and the shipping industry in connection therewith, was seriously threatened. . . . It was under these circumstances that on January 5, 1906, there was a meeting of some of the proprietors of collieries in the Newcastle and Maitland fields. The chairman pointed out the necessity of forming an association of all the collieries if the present very unsatisfactory state of the coal trade was to be improved. The meeting thereupon passed a resolution that it was desirable to form an association to raise and maintain the price of coal. . . . It can never, in their Lordships' opinion, be of real benefit to the consumers of coal that colliery proprietors should carry on their business at a loss, or that any profit they make should depend on the miners' wages being reduced to a minimum. Where these conditions prevail, the less remunerative collieries will be closed down, there will be great loss of capital, miners will be thrown out of employment, less coal will be produced, and prices will consequently rise until it becomes possible to reopen the closed collieries or open other seams. The consumer of coal will lose in the long run if the colliery proprietors do not make fair profits or the miners do not receive fair wages. There is in this respect a solidarity of interest between all members of the public. The Crown, therefore, cannot, in their Lordships' opinion, rely on the mere intention to raise prices as proving an intention to injure the public. To prove an intention to injure the public by raising prices, the intention to charge excessive or unreasonable prices must be apparent.

The age-long record of industrial Britain may not be said to be altogether without merit or economic understanding. Nor are we justified in ignoring the experience of others because of temporary post war conditions, as too many of our public men seem prone to do.

This, then, was the dictum of the Privy Council of England in the case that arose in 1912 under the Australian Industries Preservation Act (note the objective as described by the title), which prohibits agreements or combinations "in restraint of trade" just as our Sherman Law does, *but differs therefrom in specifying that such agreements shall be considered unlawful only when they are "to the detriment of the public" or carry with them "intent to destroy or injure, by means of unfair competition, any Australian industry the preservation of which is advantageous to the Commonwealth, having due regard to the interests of producers, workers, and consumers."* Absence of "detriment to the public" or absence of an "unreasonable" quality in the restraint effected or intended, if proved by the defendant, constitutes a valid defense, while on the other hand the absence of such proof constitutes proof of the Government's charges—the burden of proof thus resting upon the only party who is in position to supply the facts. What a contrast to the narrow, antiquated, and restrictive policy dictated in this country by a contrary definition of the same words —"restraint of trade." And what simplicity of enforcement and of fact-finding underlies the economic objective of this Australian law! What a boon its adoption in this country would be, properly and strictly enforced!

Another remedy was suggested some years ago by the late Judge Gary when testifying before the so-called Stanley Committee of Congress in the Steel Corporation dissolution suit, as follows:

"I realize as fully, I think, as this committee that it is very important to consider how the people shall be protected against imposition or oppression as the possible result of great aggregations of capital, whether in the possession of corporations or individuals. I believe that the Sherman Act does not meet and will never fully prevent that. I believe we must come to enforced publicity and governmental control, even as to prices, and so far as I am concerned, speaking for our company so far as I have the right, I would be very glad if we had some place where we could go, to a responsible governmental authority, and say to them, 'Here are our facts and figures, here is our property, here our cost of production: now you tell us what we have the right to do and what prices we have the right to charge.' I know this is a very extreme view, and I know that the railroads objected to it for a long time; but whether the mere standpoint of making the most money is concerned or not, whether it is the wise thing, I believe it is the necessary thing, and it seems to me corporations have no right to disregard these public questions and these public interests."

"Your idea then," said the committee, "is that cooperation is bound to take the place of competition and that cooperation requires strict governmental supervision?"

"That is a very good statement," replied Judge Gary.

That is about the only other feasible remedy yet suggested. While it would undoubtedly accomplish all the legitimate purposes sought by honest business, it lacks the simplicity of the Australian conception, and has the apparent disadvantage of putting the Government into business at a time when all sentiment, both governmental and public, leans strongly in the opposite direction.

V

That there has long been a recognition of some of these incongruities on the part of at least a few of our public men is shown by the following excerpts from President Roosevelt's Message to Congress of March 25, 1908, and from addresses by Mr. Chief Justice Taft and Mr. Secretary Hoover. Mr. Roosevelt said:—

"As I have repeatedly pointed out, this antitrust act was a most unwisely drawn statute. It is mischievous and unwholesome to keep upon the statute books unmodified a law like the antitrust law, which, while in practice only partially effective against vicious combinations, has nevertheless in theory been so construed as sweepingly to prohibit every combination for the transaction of modern business. . . . The Congress cannot afford to leave it on the statute books in its present shape."

Mr. Roosevelt's characterization of this law is of particular significance when it is recalled that it was he who, more than any other man in history, denounced and prosecuted the trusts and all other abuses of power in business.

Mr. Taft's statement, made in August, 1908, when he was making his successful run for the Presidency, has been frequently quoted as follows:—

"I am inclined to the opinion that the time is near at hand for an amendment of the antitrust law, defining greater detail defaults against it, and its aim, and making clearer the distinction between lawful agreements, reasonably restraining trade, and those which are pernicious in effect."

Mr. Hoover's statement was made on May 10, 1922, before a convention of the National Association of Manufacturers in connection with the possible extension of lawful trade association procedure, and the clarification of the existing uncertainties of definition:—

"I believe the time has come when we must have some assistance from the law, but this does not imply the alteration of the purpose of the restraint-of-trade acts.

At the time when the Sherman Act was passed, the country was in the throes of growing consolidations of capital. There were consolidations of actual ownership, and the country was alive with complaints of attempts to crush competitors with unfair practices and destructive competition. Large numbers of trade associations were then in existence, but were scarcely even discussed in this connection."

It will be observed that Mr. Taft's use of the word "reasonable" in connection with "restraint of trade" coincides perfectly with Australia's theory and practice. In this connection, too, a resolution adopted in 1922 by the National Association of Credit Men, since reaffirmed more specifically, indicates an awakening of a responsible business sentiment:—

"To treat our commerce today as was deemed necessary in an earlier period is an injustice and a blow at our best protective powers. The destructive competition of the eighties led to trusts and combinations which the Sherman Law was intended to regulate and check. Destructive competition has now given way very largely to constructive competition. This particular law therefore should be superseded by a modern statute designed according to the proportions, methods, and practices of today's business. Where there are evil tendencies to check, where there are undesirable combinations to prevent, a law framed on broader principles, free of prejudices, and capable of practical application, will be more useful and more protective than the statute of 1890 could ever prove to be on the most generous and judicious construction."

It is also well known that organized labor for some time past has been desirous of a modification and revision of these laws. In fact, at its Atlantic City convention, in September, 1925, the American Federation of Labor went on record as urging even the repeal of the Sherman Law. This was confirmed last year in its meeting at Los Angeles.

And that the need for revision or amendment of the present legislation is beginning to receive the serious attention of the legal profession in an organized, as distinct from an individual, way is evidenced by these excerpts from the 1927 report of the American Bar Association's Committee on Commerce:—

"The Sherman Law is economic legislation. It can only be helpful if it is subservient and not in opposition to economic laws. . . . Not only is the Sherman Law economically unsound, but its application to individual cases is uncertain. The facts constituting unreasonable restraint of trade cannot be catalogued. What is clearly an unreasonable restraint of trade in one case may in another case be a reasonable restraint. The result of such a state of complicated uncertainty is not only to keep men from violating the law,—that is, from entering into agreements unlawfully restraining trade,—but to keep men from entering into any agreements restraining trade, even though the restraints be reasonable and, therefore, lawful. Lawful agreements are commendable. If fear of the law keeps men from entering into lawful contracts, the public interest is violated. The Sherman Law is the basis of such a fear to an extent that cannot be overstated. It is, therefore, something more than a law—it is a power beyond the law. . . . It is the view of your Committee on Commerce that the country has outgrown the Sherman Law. . . ."

All this being so, it may well be wondered why no substantial demand for reform has thus far made itself felt. There would seem to be a number of reasons. First of all, public sentiment having been educated in days gone by along opposite lines, the majority of public men have looked at the subject as one surcharged with political dynamite. Only a few, who have had contact with or cognizance of the true workings of these laws, have ventured to speak out, and these few have realized their impotence in the face of the failure of business itself to make its needs known. Some of those few who have had the courage openly to favor revision or amendment have asked in vain for business to declare a specific program. Business has never done so in any organized way, because, like labor, organized and unorganized, its own purpose has been divided. The representative men of big business have treated the subject as though they too expect one day to run for office. For one thing, their corporations have been frequently attacked, both in the courts and by demagogic outburst, their actions closely watched, and their motives often misconstrued. Moreover, it is a question whether existing conditions are not welcome to the agents of big business as making them constantly bigger and more powerful through the elimination or absorption of their smaller competitor.

Small business, on the other hand, is unorganized, its trade associations rendered impotent and their members held apart by this very "antitrust" legislation, so that its voice is as a voice in the wilderness. Yet it is this mass of individual units, composed of all the producing and disturbing organizations up to a few millions of capital and a few thousands of employees, which is still today the backbone of the nation's economic structure—though reflection as to how long this status can continue may well give us pause.

In the creation of mass psychology an ounce of rumor is often worth a pound of truth. The very terms "price-fixing" and "collusive agreements" are in the public mind so tainted that only in private does one hear the protests of those who could and should help to bring out the truth. Are the interpretations of the Sherman and Clayton Laws so sacrosanct that their perpetuity must be conceded that to challenge the economic wisdom of their application and the economic benefit of their execution one must incur the suspicion of malefaction? Are we not taught that under a republican form of government there is no other orderly means of relief from unwise or injurious legislation than to "speak" out loud and bold?

Thus it is that most of the public discussions of the question have been confined to members of the legal profession, whose self-interest may not be so cynically questioned, whose services are vitally necessary, of course, but whose discussions are usually and naturally from a legalistic rather than a strictly business or economic point of view. They have, therefore, concerned themselves more with the inferences to be drawn from the successive expressions of the various courts, as one phase after another has arisen for interpretation, than with the basic need for a more general understanding of the many and varied phases wherein the present laws restrict and hamper industry's legitimate aspirations. These are far too numerous and too intricate to permit of elaboration in any general discussion of this many-sided subject, but, broadly summarized, it cannot be emphasized too strongly that *substantial* relief from the conditions cited can come, not from the adaptation of procedure to existing law, but only from the conformity of the law and its interpretations to the "reasonable" protective requirements of business itself.

If, then, these truths be self-evident, it should be the immediate demand of both capital and labor upon their only organized spokesmen—the National Chamber of Commerce and the American Federation of Labor—that the statesman shall emerge, of so unimpeachable character and reputation, and of such a generally recognized personal financial detachment and political independence, as will enable him and his party gradually to bring about through the processes of public education a recognition and correction of the present economic absurdities that are today harassing so many industries, producer and distributor alike.

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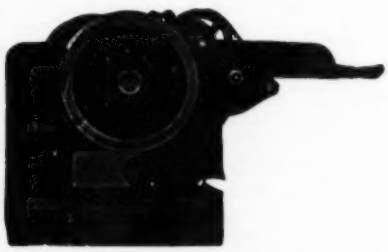

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A. W. Fenton, Inc., Republic, Bremen, 116 bls. rags.
American Over-Ocean Corp., Havana Maru, Kobe, 76 bls. rags.
B. D. Kaplan, Celtic, Liverpool, 5 bls. rags.
V. Galaup, Saucon, Leghorn, 96 bls. rags.
Equitable Trust Co., American Banker, London, 104 bls. waste paper.
I. Abela & Co., Alberta, Malta, 86 bls. rags.
Union Bank & Trust Co., Alberta, Venice, 195 bls. rags.
C. B. Richard & Co., Alberta, Bari, 49 bls. rags.
Banca Italiane Trust Co., Alberta, Bari, 166 bls. rags.
E. J. Keller Co., Inc., Vincent, Dunkirk, 65 bls. rags.
E. J. Keller Co., Inc., Vincent, Dunkirk, 74 bls. bagging.
E. J. Keller Co., Inc., Vincent, Havre, 35 bls. bagging.

OLD ROPE

N. Y. Trust Co., Westerdyk, Rotterdam, 14 bls., 14 pkgs., 27 rolls.
Banca Com'l Italiane Trust Co., Cabo Mayor, Genoa, 196 bdls.

CASEIN

T. M. Duche & Sons, West Grama, Buenos Aires, 1,084 bags, 65,000 ks.

WOOD FLOUR

A. Kramer & Co., Westerdyk, Rotterdam, 500 bags.
B. L. Soberski, Tampa, Frederickstad, 3,000 bags, 204,000 ks.

WOOD PULP BOARDS

International Forwarding Co., Deutschland, Hamburg, 50 bls.

WOOD PULP

E. J. Keller Co, Inc., Muenchen, Bremen, 800 bls. wood pulp.
Chemical National Bank, Stavangerfjord, Oslo, 760 bls. sulphite.
Atterbury Bros., Inc., Stavangerfjord, Oslo, 500 bls. wood pulp.
E. J. Keller Co., Inc., Deutschland, Hamburg, 113 bls. wood pulp, 16 tons.
M. Gottesman & Co., Inc., Kolsnaren, Stockholm, 625 bls. sulphate.
Bulkley, Dunton & Co., Kolsnaren, ——, 125 bls. sulphite.
Buck, Kiaer & Co., Inc., Kolsnaren, Stockholm, 300 bls. chemical pulp.
J. Anderson & Co., Alberta, Trieste, 1,500 bls. wood pulp.
American Exchange Irving Trust Co., Alberta, Trieste, 490 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING MARCH 24, 1928

S. Birkenstein & Son, Cabo Mayor, Valencia, 146 bls. rags.
Grace National Bank, Cabo Mayor, Barcelona, 100 bls. rags.
Chase National Bank, Cabo Mayor, Barcelona, 140 bls. rags.
Robert Blank, Cabo Mayor, Marseilles, 134 bls. rags.
Katzenstein & Keene, Inc., Cabo Mayor, Marseilles, 63 bls. rags.
Phila. Girard National Bank, Cabo Mayor, Leghorn, 85 bls. rags.
Castle & Overton, Inc., Devonian, Antwerp, 319 bls. rags.
V. Galaup, Saucon, Leghorn, 89 bls. rags.
S. Birkenstein & Son, Saucon, Genoa, 199 coils old rope.
Gilman Paper Co., Kolsnaren, Norrkoping, 94 rolls news print.
Wilkinson Bros. & Co., Inc., Kolsnaren, Norrkoping, 18 bls. paper.
Atterbury & McKelvey, Kolsnaren, Tofte, 2,400 bls. sulphite.
E. M. Sergeant & Co., Kolsnaren, Tofte, 150 bls. chemical pulp.
E. J. Keller Co., Inc., Gerwin, Bremen, 350 bls. wood pulp.
Castle & Overton, Inc., Blydendyk, Holland, 540 bls. wood pulp.
Castle & Overton, Inc., McKeesport, France, 78 bls. rags.
Castle & Overton, Inc., Eastern Dawn, Belgium, 343 bls. rags.
Castle & Overton, Inc., West Eldara, Belgium, 381 bls. rags.
Castle & Overton, Inc., Maryland, France, 539 bls. rags.
Castle & Overton, Inc., C. Gerolomich, Greece, 63 bls. rags.
Castle & Overton, Inc., Nienburg, Germany, 148 bls. rags.
Castle & Overton, Inc., Ivar, Denmark, 195 bls. rags.
Castle & Overton, Inc., Devonian, Belgium, 319 bls. rags.
Castle & Overton, Inc., Lubeck, Germany, 2,222 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING MARCH 24, 1928

N. Y. Trust Co., Nortonian, London, 138 bls. rags.
W. H. Masson & Co., Nortonian, London, 131 bls. old rope.
V. Galaup, Saucon, Leghorn, 67 bls. rags.
Baltimore News & American, Kolsnaren, Hallstavik, 1,788 rolls news print.
Johanson, Wales & Sparre, Inc., Kolsnaren, Gothenburg, 150 bls. sulphite.
Castle & Overton, Inc., Blydendyk, Holland, 540 bls. rags.
Castle & Overton, Inc., Luebeck, Germany, 3,455 bls. wood pulp.
Woodpulp Service Corp., Lygneron, Oslo, 1,935 bls. sulphite.
Woodpulp Service Corp., Lygneron, Hamburg, 2,250 bls. sulphite.
E. J. Keller Co., Inc., Nordvard, Hamburg, 328 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING MARCH 24, 1928

E. J. Keller Co., Inc., Leerdam, Antwerp, 785 bls. flax waste.

(Continued on page 72)

West Virginia Pulp and Paper Company

Manufacturers of

SUPERCALENDERED
and
MACHINE FINISHED BOOK
and LITHOGRAPHIC
PAPERS

Offset, Envelope, Bond, Writing, Cover and Music Paper, High Grade Coated Book, Index Bristol, Post Card, Kraft and Label Papers.

also

Bleached Spruce Sulphite and Soda, Kraft Pulp

200 Fifth Avenue New York
732 Sherman Street Chicago
503 Market St., San Francisco, Cal.
122 East 7th St., Los Angeles, Cal.
Sixth and Chestnut Sts., Philadelphia, Pa.

'64—and 64 more!

Fig. 106 Screwed Jenkins Standard Bronze Globe Valve

The year of '64 saw the Jenkins Valve put on the market. 64 more years have passed and the Jenkins Valve is more firmly established than ever in the favor of engineers in all industries in every part of the country. In the year-by-year building up of confidence and strengthening of a national reputation, rigidly high standards have played an important part. Metal for Jenkins Valves is proved by analyses before and after casting; the design of Jenkins Valves provides strength in every detail. The finished valve before it leaves the Jenkins factory must pass a wide margin safety test—in service more severe than that for which it is recommended.

Jenkins Valves—for practically every requirement—at supply houses everywhere.

JENKINS BROS.
80 White Street .....New York, N. Y.
524 Atlantic Avenue .....Boston, Mass.
133 No. Seventh Street ..Philadelphia, Pa.
646 Washington Boulevard Chicago, Ill.
JENKINS BROS., Limited
Montreal, Canada London, England

Always marked with the "Diamond"
Jenkins Valves
SINCE 1864

The B Co. INC. QUALITY PULPS

"HAFSLUND BEAR"
Bleached Sulphite

"FORSHAGA"
Bleached Sulphite

"HURUM SPECIAL"
Extra Strong Kraft

"BAMBLE"
Extra Strong Kraft

Fresh Monthly Shipments—No Closed Winter Season

The Borregaard Company

Incorporated
200 FIFTH AVENUE NEW YORK, N. Y.

ENGINEERS

Power plants—additions—complete paper mill projects

ONE great organization—a specialist in paper mill engineering and construction—designs, builds, rebuilds, reports, appraises, for many of the most important concerns in the paper industry. Plans, price, construction work, delivery date, owner's satisfaction, all guaranteed.

Ferguson customers include:

Hinde & Dauch Co.
A. P. W. Paper Co.
Mead Pulp and Paper Co.
Chillicothe Paper Co.
Warren Mfg. Co.
Spencer-Wyane Paper Products Company
Bennington Wax Paper Company
Oswego Falls Corp.
Fairfield Paper Co.

THE H. K. FERGUSON COMPANY
Hanna Bldg. • Cleveland, Ohio • Phone: SUp. 3620
New York • Detroit • Birmingham • Tokio, Japan

Ferguson
ENGINEERS

Imports of Paper and Paper Stock

(*Continued from page 70*)

NEWPORT NEWS IMPORTS

WEEK ENDING MARCH 24, 1928

Castle & Overton, Inc., Blydendyk, Holland, 720 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING MARCH 24, 1928

Castle & Overton, Inc., Luebeck, Germany, 354 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING MARCH 24, 1928

Green, Hamilton & Co., Anaconda, Rotterdam, 162 bls. cotton waste.

Baring Bros. & Co., Caledonian, Manchester, 36 bls. rags.

Baring Bros. & Co., Caledonian, Manchester, 126 bags hide cuttings.

International Purchasing Co., Caledonian, Manchester, 47 bls. bagging.

J. B. Woodruff, Caledonian, Manchester, 76 bls. rags.

National Shawmut Bank, Devonian, Antwerp, 25 bls. wrapping paper.

T. D. Downing & Co., Devonian, Antwerp, 60 bls. wrapping paper.

Brown Bros. & Co., Nortonian, London, 258 bls. waste paper.

First National Bank of Boston, Nortonian, London, 134 bags casein.

National Shawmut Bank, Nortonian, London, 55 bls. rags.

Brown Bros. & Co., Nortonian, London, 102 coils old rope.

Equitable Trust Co., Nortonian, London, 147 bls. waste paper.

Baring Bros. & Co., Nortonian, London, 216 bls. waste paper.

Crocker, Burbank Co., Nortonian, London, 361 bls. waste paper.

Buck, Kiaer & Co., Inc., Kolsnaren, Stockholm, 600 bls. chemical pulp.

Scandinavian Pulp Agency, Inc., Kolsnaren, Gothenburg, 2,032 bls. kraft pulp.

Parsons & Whittemore, Inc., Kolsnaren, Gothenburg, 450 bls. sulphite.

Baring Bros. & Co., Nubian, Manchester, 62 bls. rags.

Baring Bros. & Co., Nubian, Manchester, 57 bls. paper stock.

T. D. Downing & Co., Nubian, Manchester, 96 bls. rags.

American Express Co., Nubian, Liverpool, 115 coils rope.

E. J. Keller Co., Inc., West Harcuvar, Hamburg, 181 bls. rags.

K. S. Warner Addresses New York Salesmen

The first of the special luncheons of the New York Division of the Salesmen's Association of the Paper Industry was held on March 26, writing paper being the grade featured, with K. S. Warner, of the John F. Sarle Company, Inc., representing the merchants' side of the argument. Mr. Warner opened the discussion with comments on the various types of mill salesmen he encountered and emphasized the importance of "Hospitality" on the salesman's part if he is to gain the confidence of his customers. The successful salesman, Mr. Warner stated, must give evidence of this hospitality through a genuine interest in the hobbies of his customers. The customers will soon see the difference between such genuine interest and an assumed interest which is put on only in the hope of orders.

Following Mr. Warner's brief opening remarks there was a general exchange of questions and answers on many phases of merchandising, not only of writing paper but also of other grades. Among the topics discussed were tendencies in demand for various grades of writing paper, the value of different methods of mill advertising and methods of sampling, the best methods of cooperation between mill and merchants' salesmen and the current trends of merchants' and manufacturers' business. The full attendance of twenty-nine salesmen, representing a variety of grades in addition to writing paper, made this discussion comprehensive and of great value to everyone present and the salesmen were particularly appreciative of the straight from the shoulder manner in which Mr. Warner answered questions and expressed his opinions.

Dr. Merchant also presented his chart showing the relation between the theoretical business cycle and the *New York Times-Annalist* chart of actual business conditions, pointing out that the business cycle is still present and that indications are for a continued up swing following the late recession.

Soon To Announce Another Paper Mill

PORTLAND, Ore., March 23, 1928.—B. T. McBain, pulp and paper specialist of Portland, in writing for a local business paper on the port of Astoria as a pulp and paper mill attraction, mentions the proposed Northwestern Pulp and Paper Company's plant, plans for which were drawn in Mr. McBain's office, and in addition he states that a second paper plant is under consideration, by a corporation, and that announcement will probably soon be made.

Cost Accountants Meet at Pittsfield

Thomas J. Burke, C. A., secretary and treasurer of the Cost Association of the Paper Industry, attended a meeting of the Berkshire Division of the association at the Wendell Hotel, Pittsfield, Mass., last Thursday. W. W. Howe of Z. & W. M. Crane, Inc., was the chairman.

At the afternoon session, Henry Boston, of the Stevens & Thompson Paper Company, gave an address on "Standard Costs," which was followed by a lively discussion.

In the evening, following an excellent dinner, Colonel Norton, of Eaton, Crane & Pike, addressed the meeting on "Graphic Charts for Sales Analysis."

There was an excellent attendance of members present at the two sessions.

Missing Numbers Quickly Supplied

WASHINGTON, D. C., March 26, 1928.

Editor PAPER TRADE JOURNAL:

If the response to all advertisements in the PAPER TRADE JOURNAL is as satisfactory as that I received from the reading notice you inserted about the missing numbers of the PAPER TRADE JOURNAL, I would say that your magazine was a most successful selling agency. I am glad to say that through the cooperation of three men I have received all of the missing numbers of the JOURNAL, and am now ready to bind. If you care to, you might print this in order to save some one else the trouble of sending some of these journals.

Very truly yours,
C. J. WEST.

Let Contracts for Zellerbach Mills

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., March 23, 1928.—J. D. Zellerbach has announced that contracts have been let to the Steel Tank and Pipe company of Portland and to the American Wood Pipe Company of Tacoma, to supply pipe covering the water system line at the Hoquiam mill of the Zellerbach Paper Company in that place. Chris Kuppler & Sons, Port Angeles, Wash., have the general contract on this $3,000,000 job. The reinforced concrete structure for the company will be one of the largest in the Pacific northwest with all latest developments in the paper industry included in its plans.

BOLTON QUALITY

JOHN W. BOLTON & SONS, INC.

EAGLE KNIFE & BAR WORKS

Lawrence, Mass.

The only firm making KNIVES for every machine from wood pile to finishing room.

It's the KNIVES that do the work!

Prompt deliveries made from stocks in
NEW YORK
BOSTON
PHILADELPHIA
CHICAGO

TRADE MARK

Hundreds of years

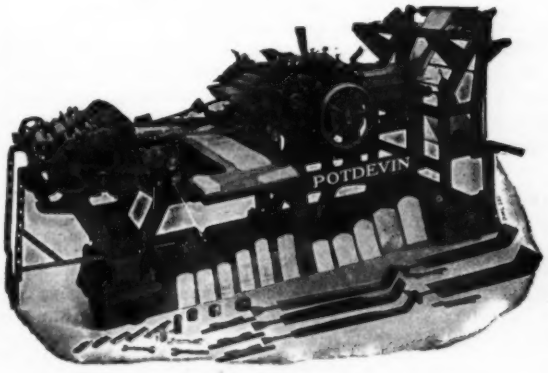
The number of years we have served each of our customers, if added together, would run into the centuries. These customer-years mean just one thing — Heller & Merz quality is satisfactory.

The HELLER & MERZ COMPANY
505 Hudson St., New York

Boston 287 Atlantic Ave. | Chicago 146 W. Kinzie St. | Philadelphia 114 Market St.
Springfield, Mass. 24 Lester Street

Factory—NEWARK, N. J.

NEW **POTDEVIN** PRINTING
SPECIALTY BAG MACHINERY



(Model 290) 2-Color Printing Flat & Square
40 Other Models
PAPER BAG MACHINERY

POTDEVIN MACHINE CO.

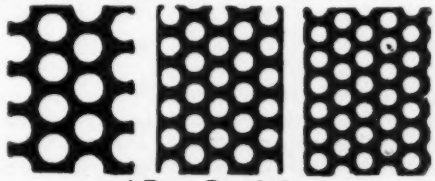
1223 38th Street, Dept. 4, Brooklyn, N. Y., U. S. A.
Phones: Windsor 7412-7413

BLUE RIDGE FIBER
Bleached Soda Pulp

Manufactured and sold by
COLUMBIAN PAPER COMPANY
BUENA VISTA VIRGINIA

Samples and Prices upon application

PERFORATED METALS



of Every Description
For Pulp and Paper Mills
THE HARRINGTON & KING PERFORATING CO.
5652 Fillmore St., Chicago, Ill.
NEW YORK OFFICE: 114 Liberty St.

New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, March 28, 1928.

During the past week trading in the local paper market was moderately active and the market exhibited a steady undertone. Reports from the sales organizations of the leading paper houses are mostly optimistic and many competent observers of the industry express that the future outlook is promising. Prices continue to hold up very well and there is not much talk of undercutting.

No radical changes have transpired in the news print situation. Production is proceeding in satisfactory volume and supplies are moving into consumption in a normal manner. The statistical position shows that while the number of pages being printed by the leading daily newspapers of the country are well up to average, the sizes of the Sunday editions are declining slightly.

Demand for the various grades of paper board is fairly persistent. Production is being keyed to keep just ahead of consumption and quotations remain steady and unchanged. The fine paper market is exhibiting a strong tendency and tissues are also in better request. The coarse paper market is in a sound position while wrapping paper continues to move in heavy volume.

Mechanical Pulp

While trading in the ground wood market was only moderately active during the past week, the restriction on production effective abroad tends to steady the situation of the industry. There is a fair inquiry around for both imported and domestic mechanical pulp and some improvement in the near future is anticipated in many quarters. Prices are holding up to schedule, in most instances.

Chemical Pulp

As a result of the lockout in the Swedish pulp and paper mills, which shows no signs of ending, the chemical pulp market is in a much firmer position than for some time past. Supplies of most of the grades are becoming scarcer and with demand expanding, quotations are beginning to advance. Imported bleached sulphite is now quoted at from $3.55 to $4.25, No. 1 strong unbleached is selling at from $2.60 to $2.70, Mitcherlich unbleached at from $2.65 to $3.25, and No. 2 strong unbleached at from $2.50 to $2.60.

Old Rope and Bagging

Judging from the number of inquiries around, more interest in old rope and bagging seems to be developing from the paper mills. Supplies of old rope are about sufficient to take care of the prevailing demand. Prices are practically unchanged. The different grades of bagging are in fairly good request and the schedule of quotations is being maintained without difficulty.

Rags

Although new rags continue to move in excellent volume for the season of the year, the demand for old rags and foreign rags is rather quiet. Supplies of imported rags are limited, due to heavy home consumption by the European countries, and prices asked are still considered too high. Quotations on domestic rags remain practically unaltered.

Waste Paper

There is a better demand for the higher grades of paper stock and the market all around is gradually becoming more active. Book stock is in particularly heavy request and the demand for the different grades far exceeds the supply, consequently prices rule very firm. It is reported in some quarters that sales have been made at a higher rate than scheduled in the lists of quotations.

Twine

Favorable conditions prevail in the twine market and the industry is in a sound position, due to some extent to the increased demand for wrapping paper for spring and Easter requirements. The prices of the various grades are generally being maintained at the levels which have prevailed for some considerable time past.

Reforestation in Michigan

KALAMAZOO, Mich., March 26, 1928.—Reforestation promises to get the biggest boost in years in Michigan during the summer and fall of 1928, with the announcement that the Federal government at Washington has approved the purchase of 400,000 additional acres in the upper peninsula as additions to the Federal forests already established there.

In connection with this statement is another important announcement from the Manistique Pulp and Paper Company, Manistique, Mich., that that concern is planning to lay the foundations of a 35 year supply of pulp and to do that expects to purchase at least 2,000 acres annually, which are to be planted to spruce. This concern desires to expand its business, but to do that an ample supply of pulp must be made available. The company has taken the matter up with the conservation commission, which body has written for more detail plans and promising to cooperate to the fullest extent with any worthy plans.

Hydro-Electric Plants Acquired

Canadian Hydro-Electric Corporation, Limited, has acquired three hydro-electric plants on the Ottawa River. Two of these generating stations, owned by the Ottawa and Hull Power Company, Limited, are located at the Chaudiere Falls, Hull, Quebec. They have a total installed capacity of 32,000 horsepower and No. 2 plant is designed for another unit of 7,200 horsepower.

The third generating station, owned by the Ottawa River Power Company, Limited, is located at Bryson, Quebec, fifty miles upstream from Ottawa. It is designed for three units of 25,000 horsepower each, one of which it at present installed and a second unit of 25,000 horsepower is now on order.

These three plants will be interconnected with the systems of Gatineau Power Company and of Gatineau Electric Light Company, Limited, subsidiaries of Canadian Hydro-Electric Corporation, Limited, which, in turn, is a subsidiary of International Paper Company.

Bids and Awards for Government Paper

WASHINGTON, D. C., March 28, 1928.—The Government Printing Office will receive bids on March 30 for 794 pounds 26x40 red flexible paper.

The Virginia Paper Company has been awarded the contract for furnishing the Government Printing Office with 248 pounds of 26x42 drumhead manila paper at 25 cents per pound, bids for which were received on March 12.

The same company will also furnish 432 pounds of 24x36 brown cloth lined paper at $173.08 per M sheets, bids for which were received on March 2.

SOME PAPER MILL USERS OF

Badenhausen Boilers

Superheaters :: Preheaters

Geo. F. Hardy, Consulting Engineer, New York
For Southern Paper Co., two orders, total 4700 H.P.
For St. Croix Paper Co. ..... 1200 H.P.
For Brown Paper Mill Co. ..... 3430 H.P.
Central Paper Co., Muskegon, Mich., four orders, total ..... 3100 H.P.
Philadelphia Paper Mfg. Co., Phila., three orders, total ..... 2400 H.P.
Jessup & Moore Paper Co., Phila., four orders, total ..... 4750 H.P.
Ontario Paper Co., Ltd.
For Daily Newspaper Co., North Tonawanda, N. Y. ..... 2034 H.P.
Filer Fibre Company, Filer City, Mich. ..... 1500 H.P.
John Lang Paper Co., Philadelphia, Pa..... 416 H.P.
Bayless Manufacturing Corp., Austin, Pa..... 1300 H.P.
Northern Board & Paper Co., San Francisco, Cal., two orders, total ..... 400 H.P.
Crown Willamette Paper Co., San Francisco, Cal., two orders, total ..... 750 H.P.
Delaware Hard Fibre Co., Wilmington, Del., two orders, total ..... 920 H.P.
Kieckhefer Container Co., Delair, N. J. ..... 1800 H.P.

Badenhausen Corporation

Reg. U. S. Pat. Off.
GENERAL OFFICE, 1011 CHESTNUT ST.
PHILADELPHIA, PA., U. S. A.

120 Broadway, New York — 211 Tramway Bldg., Denver
Reibold Bldg., Dayton, O. — 513 House Bldg., Pittsburgh
1019 Guardian Life Bldg., St. Paul

Starch

A SIMPLE change in the manufacturing process often results in a pronounced decrease in cost of production.

Paper Mills use Starch for sizing to produce better and stronger sheets with lower cost of manufacture.

Our SPECIAL PAPER brand for beater-sizing increases strength of sheet and gives improved finish.

Our FOX HEAD brand for top-sizing is more economical than all glue-size—gives perfect satisfaction.

Corn Products Refining Company

17 Battery Place **New York**

Maintains your high standards of quality papers

ALPHA FIBRE

for the making of fine paper

Alpha Fibre's exceptionally high cellulose content imparts to papers those outstanding qualities which previously were obtainable only through the use of good rags.

Paper hitherto made without rag stock, can be brought to the high quality goal by the use of Alpha Fibre.

WRITE FOR PARTICULARS

BROWN COMPANY
founded 1852
PORTLAND, MAINE
PULP SALES DIVISION

Starch

TRIUNE

AND

MULTIPLE PLY DRYER FELTS

Serve every Felt Purpose in an efficient and satisfactory way.

ENGLISH or BAKER WOVEN

Made in three, four, five and six ply—60" to 214" wide.

FITCHBURG DUCK MILLS
FITCHBURG, MASS.

For 82 Years Makers of Fine Faced Felts for Papermakers

Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, March 28, 1928.

Conditions in the local chemical market continue favorable and most of the grades used in the paper mills are in persistent demand. Supplies are moving into consumption in excellent volume for the time of the year. Manufacturers are receiving numerous inquiries regarding future business and the outlook is quite promising. Prices are holding up to schedule very well and shading is infrequent.

BLANC FIXE.—The position of the blanc fixe market is sound. There is an excellent inquiry for both the pulp and the powder for immediate shipment. Contract withdrawals are being maintained in a satisfactory manner. Prices remain unaltered. The pulp is selling at $60 per ton, in bulk, and the powder is quoted at 4 cents to 4½ cents a pound, in barrels, at works.

BLEACHING POWDER.—Steadiness continues to rule in the bleaching powder market. Shipments against contract are moving at a normal pace. Quotations remain unchanged. Bleaching powder is still selling at from $2 to $2.35 per 100 pounds, in large drums, at works, according to quantity and grade.

CASEIN.—During the past week a moderate volume of business was transacted in the casein market. Demand has apparently fallen off temporarily and prices are somewhat easier. Domestic casein is now quoted at from 16 cents to 17 cents a pound while imported casein is quoted at from 16¼ cents to 17 cents a pound, all in bags, car lot quantities.

CAUSTIC SODA.—Supplies of caustic soda are moving into consumption in heavy volume at present. The demand for this product is persistent and the outlook for the future is encouraging. Prices rule steady and unchanged. Caustic soda is offered at from $2.90 to $2.95 per 100 pounds, in large drums, at works. The flake and the ground are selling at from $3.30 to $3.35 per 100 pounds.

CHINA CLAY.—Trading in the china clay market was rather quiet during the past week. Contract withdrawals, however, were well up to average. Prices remain unaltered. Imported china clay is still quoted at from $15 to $25 a ton, in bulk, ship side. Domestic paper makers' clay is selling at from $8 to $9 during the week. Production is being maintained at satisfactory a ton at mine, and pulverized at from $10 to $12 a ton.

CHLORINE.—Demand for chlorine was moderately active capacity and supplies are sufficient to take care of the prevailing consumption. Prices are holding up to schedule. Chlorine is quoted at from 3½ cents a pound, in tanks, or multi-unit cars, at works, on contract orders. The spot quotation ranges from 3¾ cents to 4 cents a pound.

ROSIN.—There was very little change in the undertone of the rosin market. Demand was fairly persistent and contract withdrawals were normal. At the naval stores, the grades of gum rosin used in the paper mills are offered at from $9.70 to $10.10 per 280 pounds, ex dock, in barrels. Wood rosin is selling at from $7.50 to $8.30 per 280 pounds, at southern shipping points.

SALT CAKE.—The tone of the salt cake market is strong. Demand is exceptionally good for the season and inquiries regarding future business are being received in excellent volume. Prices are steady to firm. Salt cake is quoted at from $18 to $19 a ton, in bulk, at works. Chrome salt cake is selling at from $14 to $15 a ton, in bulk, at works.

SODA ASH.—Contract shipments of soda ash were very heavy during the past week. Production is proceeding in ample volume to take care of immediate requirements. The schedule of prices is being maintained in a satisfactory manner. Contract prices on soda ash, in car lots, at works, are as follows: in bags, $1.32½, and in barrels, $1.55.

STARCH.—Consumption of starch has been fairly heavy of late and contract shipments have been moving at a steady pace. Prices have again advanced ten cents per unit and there is little talk of concessions around. The quotations on paper makers' starch is now $3.82 per 100 pounds, in bags, and $3.99 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Although competition for desirable orders in the sulphate of alumina market is very keen, prices are holding up to schedule previously announced. Demand for this product is normal for the season and supplies are moving into consumption in a regular manner. Commercial grades of sulphate of alumina are selling at from $1.40 to $1.55 per 100 pounds, in bulk. The iron free is offered at from $1.90 to $2.05 per 100 pounds, in bags, at works.

SULPHUR.—Business in the sulphur market is quite active at present. Contract withdrawals are proceeding in excellent volume. Inquiries for future requirements are numerous. Prices are steady to firm. Sulphur is now quoted at from $18 to $19 a ton, in bulk, at mine, according to quantity. The spot quotation is $20 a ton.

TALC.—The talc market remains practically unchanged. Manufacturers of this product are experiencing a normal demand and prices are generally holding up well to formerly quoted levels. American talc is still offered at from $16 to $18 a ton, at eastern mines. French talc is quoted at from $18 to $22 a ton, ship side.

BOSTON PAPER TRADE MEETS

(*Continued from page 40*)

Byrne, Matthew O., Cadwell, George J., Carpenter, C. C. Carter, Hubert L., Case, R. B., Casey, T. Charles, Casey, T. H., Churchill, Asaph, Clark, E. S., Clark, Nathan S., Crowell, E. Ashley, Cummings, E. Lindsey, Cushman, H. S., Dickinson, Arnold, Dik, Edward B., Elliott, W. R., Ely, Robert W., Esleeck, Irving N., Fields, Charles W., Fiske, Paul S., Fay, A. F., Fox, C. J., Frank, Arthur W., Frank, Max, Gibson, John L., Gooch, Alfred L., Gordon, Harry W., Green, Thomas C., Hall, C. S., Hall, Geo. E., Ham, Arthur E., Ham, Herbert C., Ham, James L., Harrower, Norman, Hatfield, Allan I., Hilton, W. H., Hollis, Herbert B., Hurlbert, Hartley A., Hussey, John E. A., Johnson, Dr. F. W., Juckett, Frank A., Keep, F. H., Keith, A. G., Kelley, John, Kuster, John F., Larcom, G. F., Lindquist, H. E., Livermore, Wm. B., Loring, Rodney, Loud, Willard H., Lyman, E. R., Madden, M. L., Madden, Russell S., Main, F. W., McLellan, Wm. J., McQuillen, Bryant, Merrill, W. A., Morgan, Harry W., Morse, G. Stanley, Morton, Edward A., Munro, J. L., Muzzey, Walter L., Nelson, Charles W., Nivison, Robert, O'Brien, J. J., O'Brien, Lt. Robt., Park, Maurice A., Pearson, A. E., Porter, W. Edwin, Jr., Potter, E. R., Pratt, Walter M., Proctor, Charles S., Raybold, W. J., Reynal, Louis S., Rice, C. Edward, Ross, William, Sargent, Horace B., Savage, F. Henry, Shaw, Charles A., Simonds, Walter P., Smith, Albert R., Smith, Donald R., Snell, Joseph D., Stetson, W. N., Jr., Stevenson, W. B., Stone, E. H., Stone, Robert M., Swift, J. G., Swift, J. G., Jr., Tanyane, A. A., Temple, Albert, Thayer, H. C., Tracy, F. B., Very, W. G., Vivian, John W., Waite, H. E., Warren, M. H., Wellington, C. Frederic, Wells, Charles G., Wells, Percy D., Welsh, R. H., Weston, Percy E., Wheelwright, Geo. W., Willson, S. L., Winter, Frank, Wood, Fred L., Wood, William H., Young, Charles A., Young, I. C.

Finnish Paper Industry Improves

An improvement was noticeable in the Finnish paper market during the month of January, according to a report from Consul James R. Wilkinson, at Helsingfors, which further states that shipments were appreciably greater than during the same month of last year. Official statistics show an exportation of 22,457 short tons as against 18,193 in 1927.

There were recent signs of improvement in the groundwood industry. The better situation in this industry is reported to be a result of the agreement between Finnish, Swedish, and Norwegian producers to restrict production during this year, and also to the Swedish labor troubles in the pulp and paper industries.

The

ST. REGIS PAPER COMPANY

Daily Capacity 525 TONS

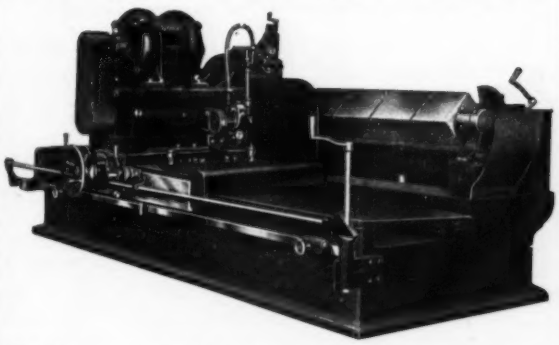
Newsprint
Catalog and Directory Papers
Fibre Wrapping Papers
Packers Oiled Manila
Specialties

General Sales Office

49 Wall St., New York

Farmers' Bank Bldg.
Pittsburgh, Pa.

Wide Use of New Type Grinders



Within a comparatively short time, safely indicates outstanding value in paper knife grinding service. The dependability of the traveling wheel grinders for satisfying accuracy removes all fear of a poor job. When one of these grinders is installed all knife troubles are over and knife upkeep is reduced to a minimum, both of expense and labor. With minimum care in the most perfunctory routine service with one of these grinders, the knives are always in perfect condition.

COVELL-HANCHETT CO.
Big Rapids, Michigan, U. S. A.
514 First Ave., South,
Seattle, Wash.

Dietz Toilet Paper Machines

For making Toilet and Paper Towel Rolls
(With or without perforations)

Self Adjusting — Easy to Operate

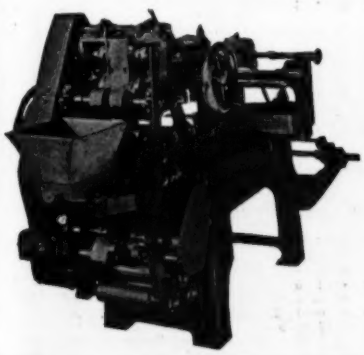
Also

AUTOMATIC TUBE MACHINES

Manufacturers of Sanitary Crepe Towel Machines, Slitting and Rewinding Machines, Drop Roll Slitting Machines, Photo Mount Beveling Machines, Rotary Card Cutting Machines, etc.
Correspondence solicited

DIETZ MACHINE WORKS

126-128 W. Fontaine Street
Cor. Waterloo St., (between Front & Second St.)
and below Diamond St.
Phila., Penna., U. S. A.



HIGHEST SPEED Paper Bag Machinery

Get My Quotations Before Placing Your Orders
Special Machinery Designed and Built

A. L. PARRISH,
1702 Robinson St., South Bend, Ind.

Market Quotations

Quoted by Hepburn & Co., 74 Broadway, N. Y. City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	OFFERED
A. P. W. Pulp & Power, 7s 1945	101	102
American Writing Paper, 6s 1947	80	82
Bastrap Pulp & Paper, 6½s 1940	100	103
British Columbia Pulp & Paper, 6s 1950	85	90*
Beaver Products Corp., 7½s 1942	106	109
Bedford Pulp & Paper, 6½s 1942	98½	None
Brown Paper Co., 1st 5½s 1946	96⅞	99
Bryant Paper Co., 6s 1942	100½	102
Cape Breton Pulp & Paper, 6s 1932	101	103
Central Paper, 7s 1933	85	None
Central Paper Serial 6, 6½s 1942	89	...
Champion Coated Paper, 6s 1926 to 1932	99	...
Champion Fibre, 8s 1930	100	...
Champion Paper Corp'n, 1st 6s 1945	95	97
Continental Paper Products, 6½s 1943	88	91½
Cornell Wood Prod., 7½s 1937	100	104*
Crown Willamette Paper, 6s 1951	100	102
Donnaconna Paper, 6s 1940	101	102½
Dells Paper & Pulp Serial, 6s 1926-38	*95	...
Eastern Mfg. Co., 7s 1938	89	91
Eddy Paper, 7½s 1931	101	103
Escanaba Paper Serial, 6s 1928	99¾	...
Filer Fibre Serial, 7s 1926-39	95	...
Fort Orange Paper, 7s 1942	99	102
Fox River Paper, 7s 1931	99	...
Gair Company, 5½s 1942	96	99
Gilbert Paper Co., 6½s 1926-29	91	None
Hammermill Paper, 6s 1939	100	103*
Hoberg Paper & Fibre, 7s 1937	94½	96
Itaska Paper & Prairie River Power, J+5½s 1926-38	99	101
Itaska Paper, 1st 6s 1933-38	99	101
Kalamazoo Veg. Parchment, 6s 1938	98	...
Marinette & Menominee, 7½s 1936	100	103
Menasha Printing & Carton, 6½s 1939	99½	...
Monroe Paper Products, 7½s 1932	96	...
Munising Paper, 6s 1927-36	96	100
Nekoosa Edwards, 1st Ref. 6s 1928 to 1942	96	99*
Orono Pulp & Paper, 6s 1943	98	...
Orono Pulp & Paper, 5s 1941	94	...
Oswego Falls Corp., 6s 1941	98	100*
Oxford Paper, 6s 1947	104	...
Paepcke Paper Mills, 7s 1930	99	None
Parsons Pulp & Lumber, 7s 1928	97	...
Parker Young Co., 6½s 1944	96½	98½
Paterson Parchment Paper, 6s 1938	100½	102
Penobscot Chemical Fibre, 6s 1942	98	...
Queens City Paper, 7s 1932	95	100*
Richardson Co., 6s 1938	100	...
River Raisin Paper, 6s 1936	96	...
Spanish River Pulp & Paper, 8s 1941	108	110
Stevens & Thompson Paper, 6s 1942	93	95
St. Anne Paper, 6½s 1946	99	101
St. Croix Paper, 5s 1936-37	95	98*
St. Regis Paper Serial, 6½s 1926-35	99½	101
Tait Paper & Color Industries, 6s 1934	90	95
Taggart Bros. Co., 6s 1944	95	97
Ticonderoga Pulp & Paper, 5s 1930	94	98
Ticonderoga Pulp & Paper, 6s 1940	99	101
Warren (The S. D.) Company, 6s 1945	99	101
Wotab Paper, 6½s 1943	102	...
Westfield River Paper, 7s 1926-43	91	...
Whitaker Paper, 7s 1942	106	108

STOCKS	BID	ASKED
American Box Board, Pfd.	8	10
American Box Board, Com.	8	10
Am. Tissue Mills, 7% Pfd.	90	93
British Columbia P. & P., Pfd.	54	58
Brompton Pulp & Paper, 8% Pfd.	100	102
Brown Corpn., 7% Pfd.	100	104
Champion Fibre, 7% Pfd.	106	112
Diem & Wing, 7% Cum. Pfd.	90	...
Eastern Mfg. Co., 1st Pfd.	28	33
Great Northern Paper, Com.	70	75
Hammermill Paper, 7% Pfd.	105	110
Hinde & Dauch, Com.	135	...
Hinde & Dauch, Pfd.	100	...
Holyoke Card & Paper	160	None
Marathon Paper Mills, Com.	125	...
Midwest Box Co., Pfd. 8%	94	98
Midwest Box Co., Pfd. 6%	92	97
Louis De Jonge Co., 7% Pfd.	93	96
Oxford Papers, Com.	160	170
Oxford Paper Co., Pfd.	105	108
Penobscot Chemical Fibre, Com.	65	75*
Richardson, 7% Pfd.	160	...
Rubberoid	74	77
Seaman Container, Class B (par $1)	1	None Off.
Seaman Paper Co.	Wanted	None Off.
St. Croix Paper	150	170
St. Regis Paper Co., 7% Cum. Pfd.	101½	104½
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper Company	50	55
West Virginia Pulp & Paper, Pfd.	101	103
Whittaker Paper 7% Cum. Pfd.	98	103

* Nominal.

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.25	@ —
Rolls, transient	3.25	@ 3.50
Sheets	3.65	@ 3.85
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	6.35	@ 7.75
M. F.	6.25	@ 7.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	4.50	@ 4.75
Southern	4.25	@ 4.50
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00
(Delivered New York)		
Boards—per ton—		
News	45.00	@47.50
Straw	57.50	@60.00
Chip	42.50	@45.00
Binders' Boards	70.00	@75.00
Sgl. Mla. Ll. Chip.	55.00	@60.00
Wood Pulp	80.00	@85.00
Container	67.50	@72.50

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	30.00	@31.25
Dry	32.00	@34.00
(F. o. b. Mill)		
No. 1 Domestic	26.00	@29.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.55	@ 4.25
Easy Bleaching	2.70	@ 2.90
No. 1 strong unbleached	2.60	@ 2.70
Mitscherlich unbleached	2.65	@ 3.25
No. 2 strong unbleached	2.50	@ 2.60
No. 1 Kraft	2.55	@ 2.75
No. 2 Kraft	2.40	@ 2.50
Sulphate—		
Bleached	3.75	@ 3.85
(F. o. b. Pulp Mill)		
Sulphite (Domestic)—		
Bleached	3.30	@ 4.75
Easy Bleaching Sulphite	2.60	@ 2.75
News Sulphite	2.40	@ 2.65
Mitscherlich	3.00	@ 3.70
Kraft (Domestic)	2.60	@ 3.30
Soda Bleached	3.25	@ 3.50
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.50	@ 1.65

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	11.75	@12.25
New White, No. 2	8.00	@ 8.50
Silesias No. 1	7.25	@ 7.75
New Unbleached	10.50	@11.00
Washables	4.25	@ 4.75
Fancy	5.50	@ 6.00
Blue Overall	6.75	@ 7.25
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.25	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.15
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.50	@ 1.60
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.95	@ 1.05

Foreign Rags

New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.50	@ 8.00
Unbleached Cottons	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50
New Mixed Cuttings	3.00	@ 3.50
New Dark Cuttings	2.75	@ 3.25
No. 1 White Linens	7.25	@ 8.00
No. 2 White Linens	5.50	@ 6.25
No. 3 White Linens	4.50	@ 5.00
No. 4 White Linens	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	1.90	@ 2.10
Dutch Blue Cottons	2.25	@ 2.50
German Blue Linens	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues	1.75	@ 2.00
Lindsay Garments	1.85	@ 1.95
Dark Cottons	1.60	@ 1.65
Shoppery	1.55	@ 1.60
French Blues	2.25	@ 2.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

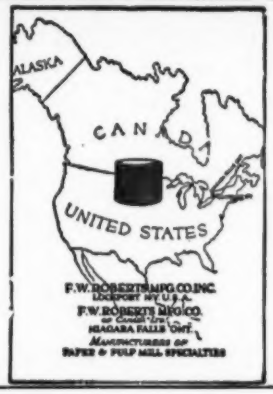
Gunny No. 1—		
Foreign	1.65	@ 1.75
Domestic	1.70	@ 1.75
Wool Tares, light	1.60	@ 1.65
Wool Tares, heavy	1.60	@ 1.65
Bright Bagging	1.60	@ 1.65
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	3.00	@ 3.10
Domestic	3.75	@ 4.00
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.25	@ 3.50
Hard, White, No. 2	2.75	@ 3.00
Soft, White, No. 1	2.60	@ 2.85
Flat Stock—		
Stitchless	1.75	@ 1.85
Overissue Mag.	1.70	@ 1.80
Solid Flat Book	1.65	@ 1.75
Crumpled No. 1	1.25	@ 1.35
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.75	@ 1.85
New B. B. Chips	.65	@ .75
Manilas—		
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.85	@ .95
Container	.70	@ .80
Bogus Wrapper	.75	@ .85
Old Kraft Machine Compressed bales	1.95	@ 2.05
News—		
No. 1 White News	1.60	@ 1.70
Strictly Overissue	.80	@ .90
Strictly Folded	.65	@ .70
No. 1 Mixed Paper	.45	@ .50
Common paper	.30	@ .35

BURRS

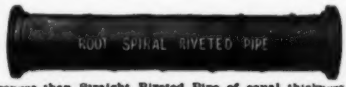


F. W. ROBERTS MFG. CO. INC.
LOCKPORT, NY, U.S.A.
F. W. ROBERTS MFG. CO.
NIAGARA FALLS, ONT.
MANUFACTURERS OF
PAPER & PULP MILL SPECIALTIES

BURRS

MORTERUD SYSTEM HELIN BEATERFILLING
NEKOOSA BARK PRESS
American Barking Drum
FIBRE MAKING PROCESSES, INC. CHICAGO, ILLINOIS

One-Fifth The Weight of Cast Iron Pipe



One-Third The Weight of Wrought Pipe

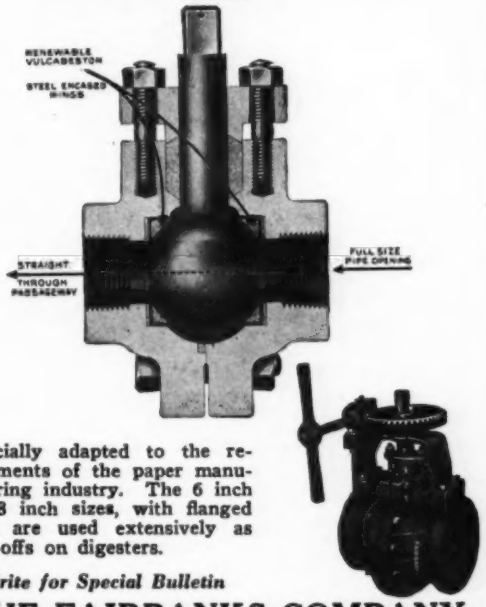
Fully 50% stronger than Straight Riveted Pipe of equal thickness. Light weight and simplicity of bolted connections results in low handling and installation expense. Suitable for conveying Water, Air, Gas, Exhaust Steam and Wood Pulp.
Abendroth & Root Mfg. Co. Sales Offices: Woolworth Bldg., N. Y.
Pipe Specialists Continuously Since 1867
See inside back cover April 12.

PUMPS
For Every
Pulp and Paper Mill Purpose
Let Us Help Solve Your Problems
LAWRENCE MACHINE CO., Lawrence, Mass.

Dayton High Speed Beaters
—Advantages—
Heavier Furnishes
Faster Beating
Greater Output
More Uniform Product
Saving in Power
Saving in Labor
Eastern Representatives:
E. K. Mansfield & Co.
501 5th Ave., New York
The Dayton Beater & Hoist Co., Dayton, O.

Your Card in This Space
Will Bring Results

FAIRBANKS' "SPHERO"
The Perfect "Blow-Off" Valve
Patented



Especially adapted to the requirements of the paper manufacturing industry. The 6 inch and 8 inch sizes, with flanged ends, are used extensively as blow-offs on digesters.

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THE FAIRBANKS COMPANY
BOSTON NEW YORK PITTSBURGH
Factory: Binghamton, N. Y.
Distribution in ALL Principal Cities

Bailey Meter Company
1056 Ivanhoe Rd., Cleveland, Ohio
Specialising in
Power Plant Metering Equipment

Finest Facilities in Central Territory
We manufacture all grades of Quality Box Board, specializing particularly in Patent Coated Boards. With a capacity of 125 tons daily, we meet the largest requirements promptly. Inquiries are invited.
STANDARD PAPER COMPANY
KALAMAZOO MICHIGAN

SAVEALLS AMERICAN CONTINUOUS FILTER DECKERS
THICKENERS UNITED FILTERS CORP. HAZLETON, PA. BLEACH WASHERS
Branch Offices—New York-Chicago-Salt Lake City-Los Angeles

The Paper Industry is successfully using thousands of feet of this Pipe and they find it to be the best conveyance for White Water, Paper Stock, and Acids that can be obtained.

WYCKOFF WOOD PIPE
Pressure Pipe That Never Bursts.
Built in sizes 1 inch to 48 inches.
A. Wyckoff & Son Company
1853 Elmira, N. Y., U. S. A. 1928

Twines

(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¾
No. 2 M. F. Book	.05¾	@	.06½
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¼
News—Sheets, mill	.03¾	@	.04¾
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.05¾	@	.06¼
Southern Kraft	.04½	@	.05
No. 2 Kraft	.05	@	.05¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¾
White Tissue—			
20x30 Sheet	.07¼	@	.07½
Boards, per ton—			
(Delivered Central Territory)			
Plain Chip	45.00	@	—
Solid News	47.50	@	—
Manila Lined Chip	55.00	@	—
Container Lined—			
(Delivered Central Territory)			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.80	@	2.90
White Env. Cuttings	3.60	@	3.70
No. 1 Soft Shavings	2.50	@	2.60
No. 1 Mixed	1.00	@	1.05
No. 2 Mixed	.90	@	1.00
Ledger & Writings	1.55	@	1.65
Solid Books	1.20	@	1.30
Blanks	1.70	@	1.80
Krafts	1.90	@	2.00
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	2.00	@	2.10
Ex. No. 1 Manila	1.55	@	1.65
Print Manila	.90	@	1.00
Folded News (oversisue)	.65	@	.75
Old Newspapers—			
No. 1	.65	@	.75
No. 2	.60	@	.65
Mixed Papers—			
No. 1	.70	@	.80
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	.16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.08½	@	.09
Manila Sul., No. 1	.04½	@	.06
Manila, No. 2	.04	@	.04½
No. 2 Kraft	.05¾	@	.05½
No. 1 Kraft	.06	@	.06¼
Common Bogus	.02¾	@	—
Straw Board	60.00	@	65.00
News Board	47.50	@	50.00
Chip Board	42.50	@	45.00
Wood Pulp Board	4.50	@	5.00
(Carload Lots)			
Binder Boards—			
No. 1, per ton	80.00	@	90.00
No. 2, per ton	75.00	@	80.00
Carload lots	65.00	@	75.00
Tarred Felts—			
Regular	58.00	@	63.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.44	@	1.54
Best Tarred, 3-ply	1.93	@	2.08
No. 1 Mixed Paper	.65	@	.70

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable	.04	@	.04½
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08
New Blue	—	@	.04
New Black Soft	.05½	@	.06
New Light Seconds	.03	@	.03½
Khaki Cuttings	.04½	@	.05
Corduroy	.03	@	.03¾
New Canvas	.08	@	.09½
New Black Mixed	.05	@	.05½

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.75	@	2.00
Domestic	1.75	@	2.00
Manila Rope	3.50	@	4.00
Sisal Rope	1.25	@	2.00
Mixed Rope	1.10	@	1.25
Scrap Burlaps	1.50	@	1.75
Wool Tares, heavy	3.00	@	3.50
Mixed Strings	1.25	@	1.35
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	—	@	2.50

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	3.25	@	3.35
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.50	@	2.75
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.90	@	2.00
Writing Paper	1.75	@	1.85
No. 1 Books, heavy	1.30	@	1.35
No. 2 Books, light	.85	@	.90
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	1.00	@	1.10
Container Manila	.90	@	1.00
Old Kraft	2.00	@	2.20
Common Paper	.55	@	.60
No. 1 Mixed Paper	.60	@	.75
Straw Board, Chip	.65	@	.75
Binders Board, Chip	.65	@	.75
Overissue News	.80	@	.90
Old Newspaper	.50	@	.60

Domestic Rags (Old)

White, No. 1—			
Repacked	4.50	@	5.25
Miscellaneous	3.50	@	4.00
White, No. 2—			
Repacked	.02¼	@	.02¾
Miscellaneous	.02	@	.02¼
Thirds and Blues—			
Repacked	2.50	@	2.75
Miscellaneous	1.60	@	1.75
Black Stockings	3.50	@	3.75
Roofing Stock—			
No. 1	1.75	@	1.80

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.07	@	.20
Superfines	.11	@	.31
News	.03½	@	.04
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05½	@	.06½
No. 2 Kraft	.04¼	@	.05
Common Bogus	.02¼	@	.02¾
Delivered New England points			
Straw Board, rolls	.009		57.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board			47.50
Chip Board			45.00
Single Manila Pulp lined board	55.00	@	60.00
Single White, patent coated board bender	72.50	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.75	@	3.10
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.60	@	—
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.10	@	2.25
No. 1 Books, Heavy	1.55	@	1.65
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	1.25	@	1.35
White Blank News	1.40	@	1.50
Old Kraft	1.90	@	2.00
Print Manila	.70	@	.80
No. 1 Mixed Paper	.45	@	.50
Overissue News	.70	@	.80
Old Newspapers	.50	@	.60
Box Board, Chip	.65	@	—

Bagging

(Price f. o. b. Boston)

Gunny No. 1—			
Foreign	1.40	@	1.50
Domestic	1.50	@	1.60
Manila Rope and Strings—			
Foreign	—	@	2.75
Domestic	—	@	3.50
Mixed Strings	.90	@	1.00
Scrap Burlaps	1.37½	@	1.50
Wool Tares, heavy.	—	@	1.50
New Burlap Cutting	2.25	@	2.37½

Domestic Rags (New)

(Price f. o. b. Boston)

Shirt Cuttings—			
New White No. 1.	.11	@	.11½
Silesias, No. 1	.07	@	.07½
New Unbleached	.09½	@	.10
Fancy	.05	@	.05½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.07	@	.07½
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04¾	@	.05¼
Corduroy	.03	@	.03½
New Canvas	.08	@	.08¼

Domestic Rags (Old)

(Price f. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	5.50	@	5.75
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.00	@	2.12½
Miscellaneous	1.75	@	1.90
Roofing Stock—			
No. 1	1.70	@	—
No. 2	1.50	@	—
No. 3	1.10	@	—
No. 4	1.10	@	—

Foreign Rags

(F. o. b. Boston)

Dark Cottons	—	@	1.50
New No. 1 Shirt Cuttings	11.00	@	11.50
Dutch Blues	2.00	@	—
Lace Curtains	5.00	@	5.25
New Checks & Blues	4.50	@	4.65
Old Fustians	1.80	@	—

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (carloads)	3.25	@	—
Sheets (carloads)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.75	@	—
No. 2 M. F. (carloads)	7.50	@	—
No. 3 M. F. (carloads)	7.25	@	—
No. 1 S. C. (carloads)	8.25	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 3 S. C. (carloads)	7.75	@	—
No. 1 Coated and Litho	14.50	@	—
No. 2 Coated and Litho	13.50	@	—
No. 3 Coated and Litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.85	@	—
White Rag	5.25	@	—
"B" Manila	5.65	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.20	@	—
M. G.	7.35	@	—

Pulp

(F. o. b. Mill)

Ground Wood	27.00	@	28.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	50.00	@	52.50
Sulphite, bleached	68.00	@	70.00
Sulphate	65.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk, News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.25	@	—
Light and Crumpled Book Stock	1.10	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.80	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.12	@	.12½
Fancy Shirt Cuttings	.04	@	.04½